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from Structural and Functional Neurocircuitry Following  
Traumatic Brain Injury"

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14. ABSTRACT Mild traumatic brain injury (mTBI) is one of the major health problems facing military servicemembers returning from deployments. White matter axonal damage, as measured by neuroimaging techniques like Diffusion Weighted Imaging (DWI), is one of the hypothesized mechanisms contributing to the cognitive and affective sequelae of mTBI. Presently, many of the findings in the literature examining the association between DWI and neuropsychological outcome are contradictory, possibly due to differences in stage of recovery at the time of assessment. This study will address this problem by collecting measures of white matter integrity and concomitant neuropsychological status at five time points in the first year following an mTBI. During the first year, study preparations, including ethical approval, hiring and training of new staff, purchasing of equipment and materials, and validation of neuroimaging protocols, were completed ahead of schedule. During the past year, we have collected usable data from a total of 13 participants. These data have been cleaned and preliminary analyses suggest that we are able to identify meaningful trends in the data, although the sample is still far too small to make valid conclusions.					
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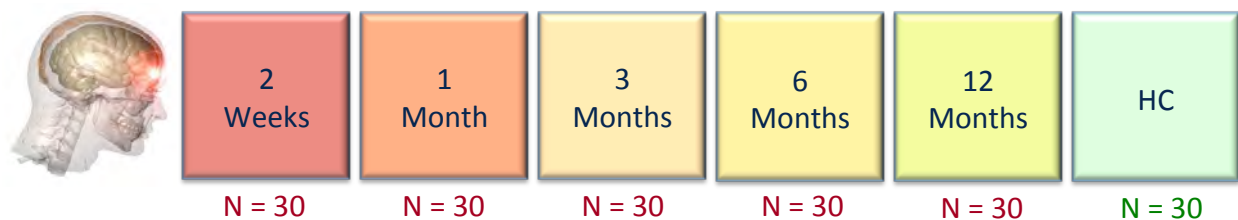
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## 1. INTRODUCTION

Mild traumatic brain injury (TBI) represents a major health concern and economic burden in the United States [1]. A significant proportion of individuals with mild TBI will experience a prolonged recovery with persistent post-concussive symptoms, and it is yet unclear why some individuals will show a good injury outcome, whereas other will not [2-5]. Structural damage to white matter axonal tracts has been suggested to underlie many of these persistent behavioral changes [6-10]. Yet due to differences in brain imaging methods, neuropsychological testing approaches, and sample characteristics, this has not been consistently demonstrated at different recovery stages. Furthermore, the relationship between structural connectivity, functional connectivity and neuropsychological performance remain unclear.

The proposed study will be the first to systematically assess structural connectivity, functional connectivity and neuropsychological functioning at five recovery stages (i.e., two weeks, one month, three months, six months and 12 months) following mild TBI relative to healthy controls. We hypothesize that structural white matter tract disintegrity will underlie abnormalities in functional connectivity, neurocognitive performance and post-concussion symptom severity, but that these metrics will vary with time since injury. The primary aim of the proposed study is therefore to investigate whether measures of white matter disintegrity following mild TBI would explain abnormalities in functional connectivity of the brain, cognition and emotional disturbance, and whether white matter integrity (or lack thereof) could serve as a reliable biomarker of mild TBI. This will allow conclusions on the utility of measures of white matter integrity in the diagnosis of mild TBI. As the study incorporates five time points of measurement to represent different recovery stages of mild TBI, this will allow conclusions on the natural recovery course of mild TBI and the utility of white matter integrity measures in the prediction of injury outcome.



Basic Study Design. A total of 180 participants will be assessed. Six (6) groups of 30 participants with mTBI will be scanned at various time points ranging from 2-weeks to 12-months post-injury. We will also collect diffusion weighted scans from 30 healthy controls (HC).

## 2. KEY WORDS

TBI, traumatic brain injury, concussion, DWI, Diffusion Weighted Imaging, white matter, brain imaging, neuropsychological performance, neurocognitive performance, structural connectivity

## 3. OVERALL PROJECT SUMMARY

As described in detail in last year's annual report, the PI (Dr. Killgore) changed primary institutions from McLean Hospital to the University of Arizona as of 1 July 2014. Consequently, research operations on this project were suspended between 24 MAR 2014 and 15 APR 2015, until the transfer of funds to the receiving institution was complete. Upon receipt of funds at the University of Arizona on 15 APR 2015, research activities for this study were resumed. At that time, efforts were immediately focused on making all necessary purchases of materials,

finalizing IRB protocols, and initiating recruitment activities. We have now resumed recruitment and active data collection. With regard to pre-enrollment of participants, intensive recruitment efforts have led us to be nearly caught up on our timeline for progression of the study (detailed further below). Overall, in addition to the original 29 participants collected at McLean Hospital, we have now collected an additional 13 participants, bringing the total to 42 of the 180 required for analysis (i.e., data collection is now 23% complete). We have met our goals for this year according to the Statement of Work and are well on track to completing the study according to the new timeline.

### **Accomplishments According to Statement of Work (SOW)**

Consistent with the Revised Statement of Work, the following tasks have been accomplished:

#### **Major Task 1: Study Preparation, Staff Hiring, and Materials Acquisition—COMPLETED**

##### **Accomplishments:**

- Consistent with the SOW, all study staff have been hired and have completed all requisite local and protocol-specific trainings. After first hiring 1 postdoctoral fellow, 1 lab manager, and 5 full time Research Assistants (shared effort across several other studies), two additional research technicians and two additional postdoctoral fellows were hired and subsequently trained on study protocols. New research assistant staff members performed reiterative practice of administering assessments and questionnaires to obtain high proficiency and reliability.
- New Research Assistants were trained by a licensed psychiatrist on the administration and scoring of the MINI. The Research Assistants also underwent intensive training on administration and scoring of all other assessments and computerized tasks used in the study.
- All personnel were also required to complete additional trainings in the second quarter. These trainings included comprehensive instruction in 1) handling and reporting adverse events, 2) triaging participants who are assessed as being at-risk for suicide, and 3) properly administering TBI interview and assessments pertaining to treatment arm of study. Trainings pertaining to adverse event reporting required attendance at a seminar hosted by our departmental IRB Regulatory Coordinator. Attendance at an informational session and hands-on practice session with the Co-PI were required for suicide triage training.
- MRI scanner sequences have been programmed, tested, and are yielding useable data. All study materials and equipment have been acquired and are fully functional.

#### **Major Task 2: Human subjects approval.**

##### **Accomplishments:**

- Consistent with the SOW, we have obtained local IRB approval at the University of Arizona. The University of Arizona IRB and HRPO have approved the study protocol

and all related amendments.

### **Major Task 3: Advertisement and subject recruitment.**

#### **Accomplishments:**

- We have established relationships with several medical facilities across the city of Tucson including Banner University Medical Center, Tucson Medical Center, Southern Arizona VA Health Care System, Western Neurosurgery, Green Valley Physicians office, La Cholla Physicians Office, and sixteen (16) physical/sport therapy offices. We have further made contact with local traumatic brain injury support groups, visited local brain injury rehabilitation centers, made social media announcements, flyer across the University of Arizona Campus and downtown Tucson areas, and used the Banner University Medical Center television announcements. We have additionally established relationships with club sports teams at the University including ice hockey, soccer, rugby, and lacrosse that have a high incidence of TBI. Finally, we have begun the process of developing collaborative referral systems with the Tucson Police Department, along with Banner University Medical Center ER and Trauma centers.
- Over the course of our advertising, we have distributed recruitment materials to over 73 locations across Tucson and nearby cities. We have also started participant phone recruitment and have screened 211 participants (100 males and 111 females), 40 of whom are eligible, 13 of whom have completed their participation, 2 of whom were removed from the study due to inability to provide head injury documentation, and 13 of whom have been scheduled for future visits. One major challenge has been obtaining head injury documentation for eligible participants, which we require in order for them to become fully enrolled subjects. We have addressed this issue by recently incorporating a generic electronic template form that can be signed by injury witnesses (e.g. coaches, physical therapists/ athletic trainers, or medical professionals).

### **Major Task 4: Data collection.**

#### **Accomplishments:**

- Since starting data collection at the University of Arizona, 13 new participants have now completed all aspects of the study (9 healthy controls, 2 at two weeks post-injury, 1 at one month post-injury, 1 at three months post-injury, 0 at six months post-injury, 0 at 12 months post-injury), yielding 13 complete data sets of neuroimaging and neuropsychological data. No negative outcomes have been reported.
- In light of difficulties with transferring an in-house developed multiband sequence (AKA "Kawin" sequence) from McLean Hospital's Tim Trio scanner to the 3T Siemens Skyra and the University of Arizona, our lab has collaborated with local biomedical engineering faculty to develop an in-house set of multiband (2x and 3x) diffusion sequences to follow our standard 72-direction sequence. We intend to use the first 20-30 participants' multiband diffusion data as pilot multiband data to determine the quality and optimal parameters for our in-house multiband sequence. For the remaining participants of the study, we are then considering the prospect of using one of the multiband sequences to incorporate higher diffusion directions that,

like the Kawin sequence, would provide significantly greater resolution of white matter fibers and any damage associated with mild TBI.

- Collaboration with biomedical engineering faculty at the University of Arizona has further allowed us to develop a novel preprocessing pipeline for all of our diffusion-weighted images (collected through the standard 72 direction sequence, as well as the two multiband sequences). This preprocessing pipeline, written using a combination of bash programming, FSL functions, and MATLAB tools, utilizing and LPCA “denoising” algorithm and FSL’s new EDDY correction tool for correcting eddy current-induced distortions and subject movements. We expect that this further development of our preprocessing procedure will provide an even greater degree of resolution of damaged white matter track in mild TBI, than was previously possible using more basic DWI preprocessing pipelines.
- Neuroimaging data were transferred to local lab computers and checked for data quality (i.e., visual inspection for acquisition errors). All behavioral data were entered into a RedCap database management project, and data was further exported into excel. Scoring and entry of data was performed by two different technicians and cross-validated for errors.

## **Major Task 5: Quality Control Checks**

### **Accomplishments:**

- Consistent with the SOW, all data are being uploaded into analysis computers, pre-processed, and checked for errors in acquisition as they are collected. The Lab Manager is overseeing compliance of IRB/HRPO regulations via periodic audit of data storage and test administration by study staff. Behavioral data are being entered and cross-validated for errors by Research Technicians, and all collected data are being backed-up routinely.

## **Preliminary Findings**

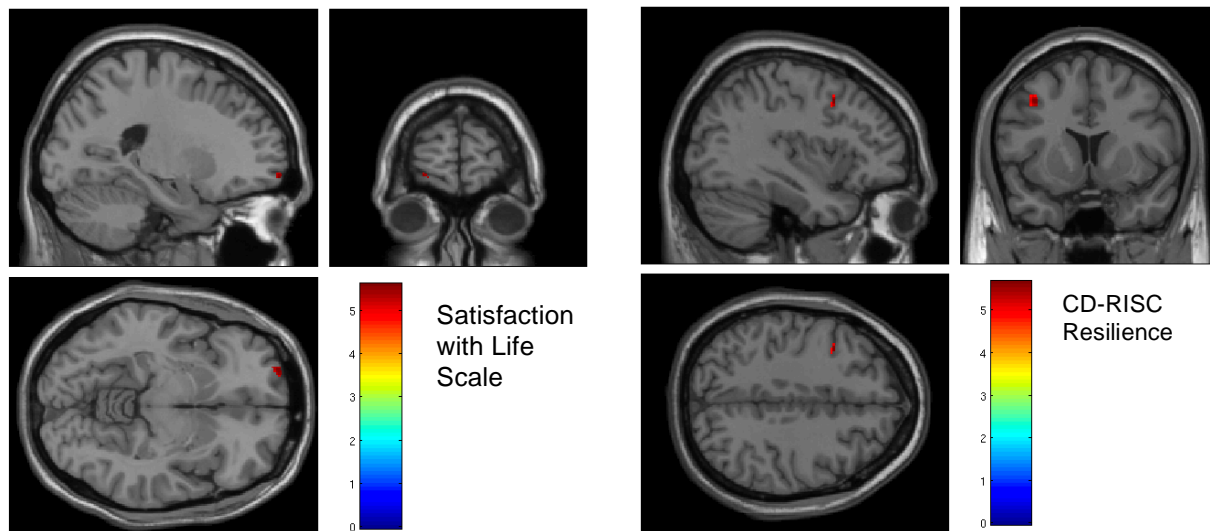
At present, we have conducted preliminary analyses of the 29 datasets that were collected at McLean Hospital. Initial findings on this sample were presented in last year’s annual report. Thus below we present only new findings that have been observed since last year’s report:

### **Voxel Based Morphometry (VBM) Findings**

Quality of life/ Resilience post-injury and gray matter volume. The twenty-six mTBI participants (11 males, 15 females; mean age = 23.4), whose high-resolution T1 structural neuroimaging data were collected at McLean hospital, were used in VBM preliminary analyses. Using behavioral data from completed Satisfaction with Life Scale (SWLS) and the Connor-Davidson Resilience Scale assessments, we performed several multiple regression VBM analyses. After covarying for age, gender, time since injury and intra-cranial volume, a voxel-based morphometric (VBM) multiple regression analysis was conducted within Statistical Parametric Mapping (SPM8) to explore the association between gray matter volume in the frontal lobe and SWLS and CD-RISC scores. Greater GM volume in the left hemisphere of the superior frontal gyrus was positively correlated with SWLS scores (7 voxels,  $p < 0.05$ , FWE corrected). No association was found in the right PFC. Consistent with the theory of lateralized

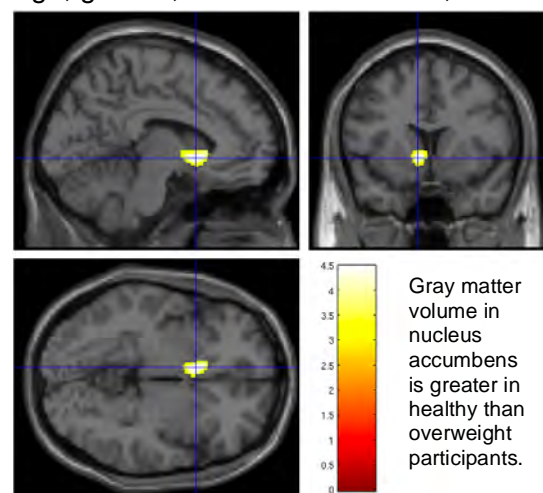
affective processing, we found that greater volume of the left medial prefrontal cortex was associated with greater satisfaction with life among individuals with recent brain injuries.

Utilizing a small volume correction (SVC) for the frontal lobe, CD-RISC scores were found to be positively correlated with greater GMV in the left precentral gyrus (13 voxels,  $p < .05$ , FWE corrected). Exploratory analysis further revealed that this association is significantly more prominent in the acute (less than 3 months), as opposed to the chronic stage (between 3 and 12 months) following an mTBI. These findings suggest that GMV in the left precentral gyrus may predict cognitive resilience following an mTBI. Although the precentral gyrus is primarily thought to be responsible for voluntary movement, studies have shown that the left precentral gyrus may be associated with subthreshold depression risk and negative self-attributional bias in response to adverse life events. Early identification of gray matter deficits in this region following mTBI may therefore alert clinicians to the need to devote greater attention towards cultivating cognitive resilient skills.



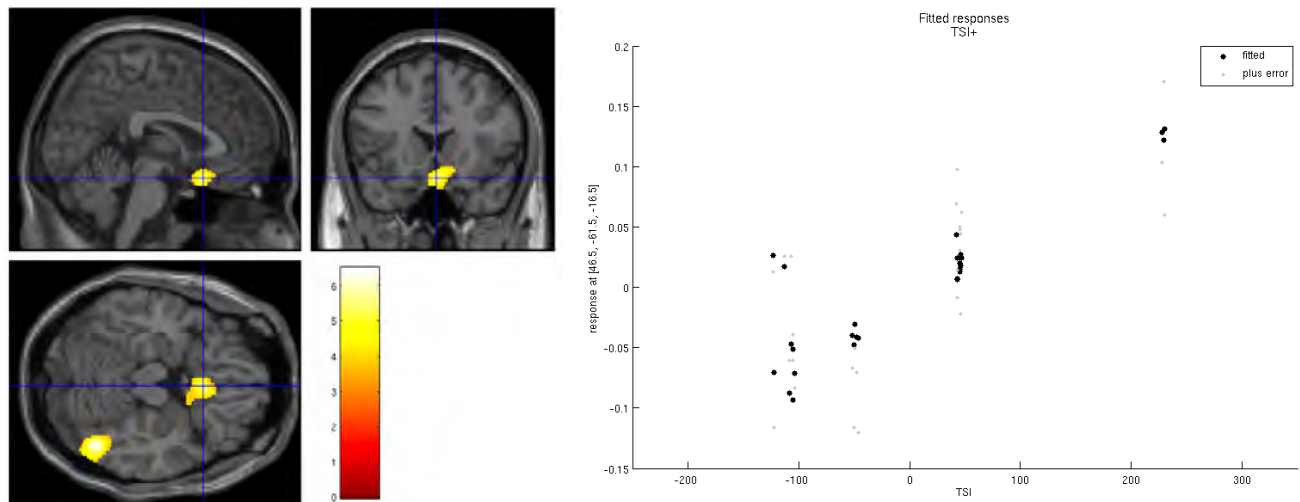
The figure on the left shows the association between prefrontal gray matter volume and the Satisfaction with Life Scale, while the figure on the right shows the positive association between prefrontal gray matter volume and the CD-RISC measure of resilience. All images are corrected at  $p < .05$ , family-wise error corrected.

**BMI and gray matter.** mTBI participants were divided into groups of 12 healthy ( $\text{BMI} \leq 25$ ) and 12 overweight ( $\text{BMI} > 25$ ). After controlling for age, gender, intra-cranial volume, and time since injury, gray matter volume was significantly greater ( $p < 0.005$ ) in the healthy group compared to the overweight group in a number of brain regions, including the bilateral caudate nucleus (head) regions, nucleus accumbens, bilateral parahippocampal gyrus, left inferior temporal gyrus, and left medial frontal gyrus. Significant differences in gray matter volumes were found between healthy and overweight individuals, particularly within regions involved in reward, executive functioning, memory, and emotion. Interestingly, the direction of findings for the ventral striatum is opposite of that often reported for non-brain injured individuals, raising the possibility that mTBI might alter these associations.





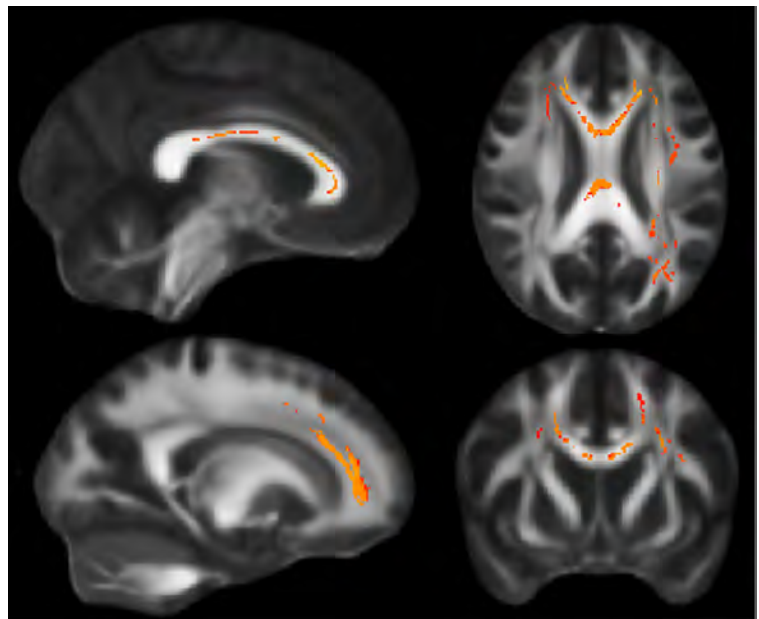
Gray matter in vMPFC and time since injury. Segmented images were used to create a custom DARTTEL template, and then images were normalized and smoothed prior to analysis. VBM data were correlated with time since injury. The volume data from the resulting cluster were then extracted and correlated with metrics from the Delis-Kaplan Executive Function System (DKEFS). After controlling for age, gender and intracranial volume (ICV), GM volume in the right inferior temporal cortex and ventromedial prefrontal cortex (VMPFC) correlated positively with time since injury (cluster corrected,  $p < 0.05$  FDR, whole brain). VMPFC volume from this cluster were also found to be positively correlated with performance on several DKEFS tasks such as DKEFS-design fluency 1 ( $R^2 = 0.177$ ), DKEFS-design fluency 2 ( $R^2 = 0.164$ ) and



Gray matter volume within the ventromedial prefrontal cortex and inferior temporal cortex is positively correlated with days since injury. DKEFS-sorting test ( $R^2 = 0.230$ ). VMPFC volume was greater with longer time since injury post mTBI. While causal inference cannot be made, we speculate that the greater volume in VMPFC with longer time since injury might reflect a compensatory phenomenon of neural plasticity aiding in recovery of cognitive functions post mTBI (see figure below).

### **Diffusion Tensor Imaging (TBSS)** **Findings**

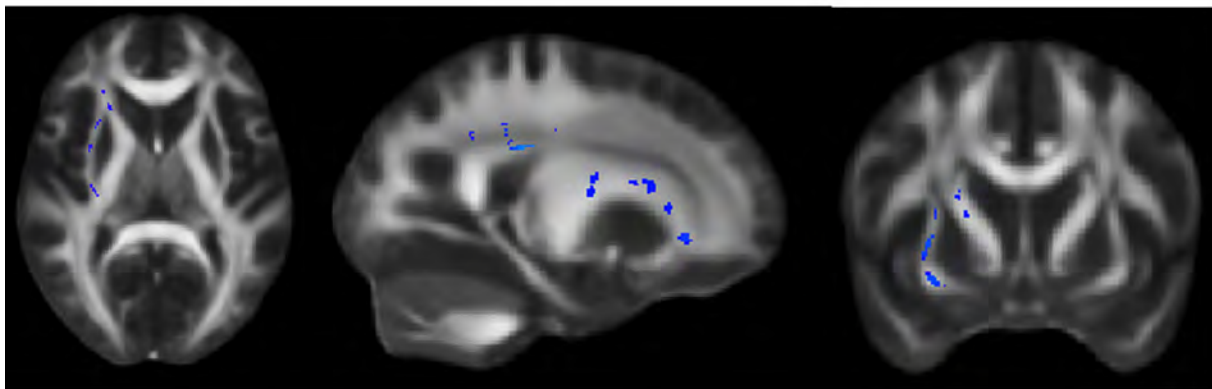
In this preliminary analysis we have investigated brain white matter (WM) integrity in 26 participants with mild traumatic brain injury (mTBI) (age  $M = 23.38$ ,  $SD = 5.23$ ; 15 females). First, we were interested to see whether mTBI is associated with WM changes regardless of the injury chronicity. We performed whole brain analysis using Tract Based Spatial Statistics (TBSS) across the entire group of participants while controlling for age, sex and time since injury. Correlational analysis showed that alterations in WM of



White matter FA in the corpus callosum were negatively correlated with the Aggression subscale of the PAI ( $p < .05$ , corrected).

participants with a recent history of mTBI were associated with performance metrics on a number of neuropsychological tests, as well as general health and wellbeing questionnaires. We used fractional anisotropy (FA) as a global measure to qualify changes within WM. There was a significant negative association ( $p < .05$ , corrected for multiple comparisons) between FA and the Aggression subscale of the Personality Assessment Inventory (PAI), indicating that reduced WM coherence was associated with increased physical aggression in this clinical population. WM fibers implicated in this association included the genu and splenium of the corpus callosum (CC), superior longitudinal fasciculus (SLF) and corona radiate (see figure at right).

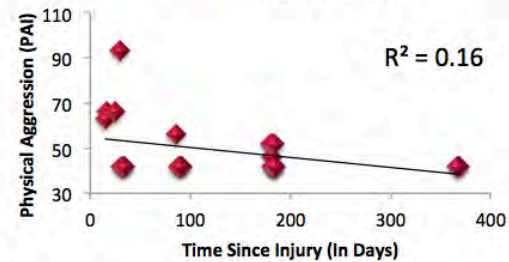
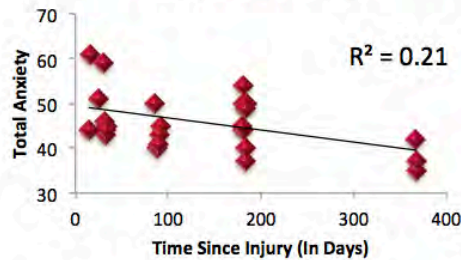
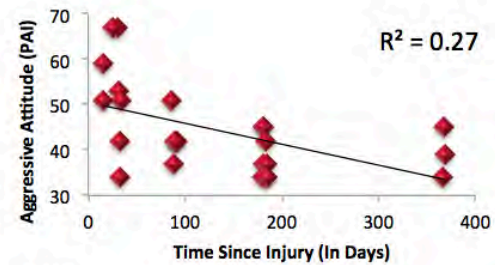
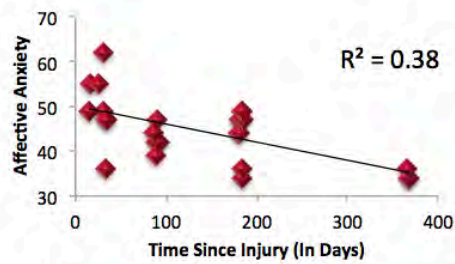
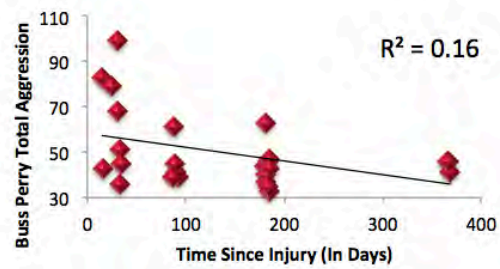
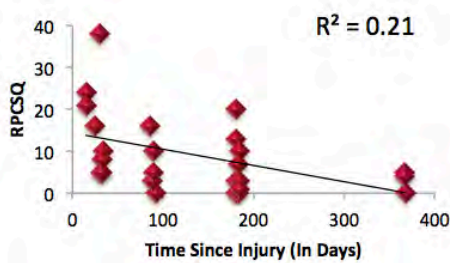
Additionally, reduced FA in the external capsule and internal capsule in mTBI was significantly ( $p < .05$ , corrected for multiple comparisons) positively associated with performance on tests of vigilance, such as PVT Speed (i.e.,  $1/RT \times 1000$ ). This result suggests that greater integrity of WM is associated with greater psychomotor vigilance speed (see figure below).



White matter FA in the external capsule and internal capsule was positively correlated with psychomotor vigilance speed.

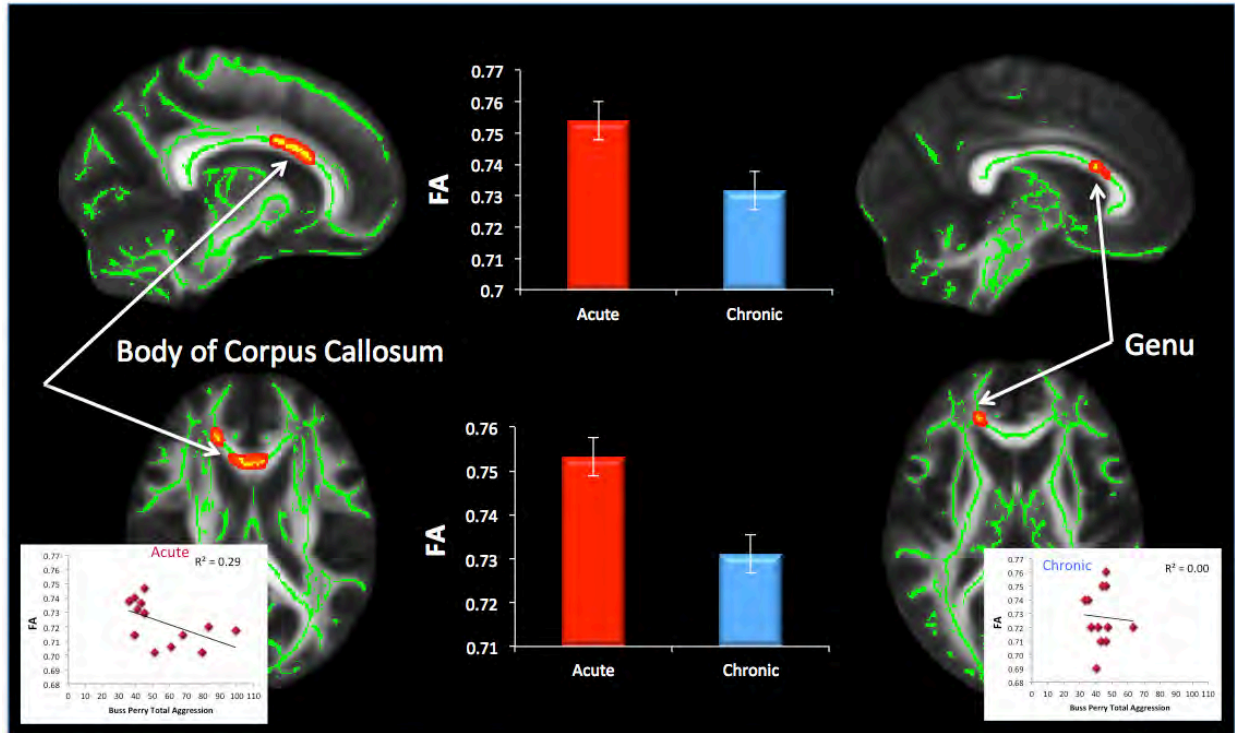
Moreover, FA had a near significant association with a range of other cognitive measures. FA showed a negative association with Pittsburgh Sleep Quality Index (PSQI) and Rivermead Post- Concussion Symptoms Questionnaire (RPCSQ), thus suggesting that compromised WM coherence is associated with poorer sleep and greater post- concussive symptoms, respectively. In line with the observed negative association between FA and PAI aggression subscale, we also observed an association between FA and Buss Perry total aggression score.

Interestingly, we found that these questionnaires also showed significant associations with time since injury. Overall, as shown in the figures below, participants with a longer time since injury tended to have lower severity across several metrics of concussion (RPCSQ), anxiety, and aggression.



Longer time since injury is negatively correlated with several behavioral outcome measures, including the Rivermead Post-Concussion Symptom Checklist, several indices of anxiety, and several indices of aggression.

Finally, we were interested to see whether the associations observed across the entire mTBI group would differ when examined in acute (< 3 months) vs. chronic (> 6 months) mTBI subgroups. Our findings indicate that in the acute subgroup, PSQI measure of quality of sleep was negatively associated with FA in the genu, body and splenium of the CC, SLF, corona radiate and thalamic radiation ( $p < .05$ ). There was also a near significant negative correlation between FA and Buss Perry total score in the acute group in the body of CC and SLF ( $p < .1$ ). A near significant negative correlation was also observed between performance on a vigilance test and FA in the corona radiate and internal capsule.



## FA Values: Acute mTBI > Chronic mTBI

FA values were compared between acute (0 to 3 months) and chronic (3 months to 1 year) mTBI. The body and genu of the corpus callosum showed significant differences in FA values, with lower FA observed in the Chronic group. Separate correlations between FA and Aggression scores for each group showed that FA was negatively correlated with aggression for the Acute group, but not the Chronic group.

## Challenges

Our major challenge has been the delay in collecting data resulting from the transfer from McLean Hospital to the University of Arizona. This slowed down our progress for the year we were awaiting transfer. However, we are now up and running well and have received an extension until 14 APR 2019 in order to complete data collection. A secondary challenge we have encountered is the increasing rate of cannabis use within the general population. We had routinely been excluding participants with even a modest history of cannabis use in order to reduce potential variability in the data. However, in the past couple of years we have found it increasingly difficult to recruit participants without some history of cannabis use. Thus, in order to ensure recruitment goals are met, we have had to modify our exclusionary criteria to permit a more liberal history of cannabis use. We are, however, collecting detailed data regarding this use so that it can be scientifically evaluated in the data analysis.

## KEY RESEARCH ACCOMPLISHMENTS

- Human subject approval was obtained early in the course of the study.
- Study preparations are completed.
- Advertisement, study recruitment efforts and data collection have, since the study could resume, been highly successful and are ongoing.
- Data quality checks are ongoing.

- 13 complete data sets have been collected, with 6 subjects scheduled to take part in the study in the near future. Subjects are assessed within 3 days of their respective post-injury date.

## REPORTABLE OUTCOMES

As of the date of this report, the study sample is yet too small to conduct meaningful statistical analyses. This is particularly true for group comparisons. However, preliminary analyses suggest that our DTI data are being collected effectively. Thus, once we have a larger sample, we believe we will be able to report meaningful outcome data.

## CONCLUSION

The study is now progressing as planned. Although the study was delayed for 13 months during which time funding was being transferred to the new receiving institution, the study is now back up and running and data is being collected. Preliminary findings suggest that the procedures are working and that valid data is being collected. Data will continue to be collected over the next two years in order to obtain a sufficient sample size to conduct meaningful results.

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# **A Model for Predicting Cognitive and Emotional Health from Structural and Functional Neurocircuitry Following Traumatic Brain Injury**

## **Study Tasks and Assessments**

California Verbal Learning Test (CVLT)

Brief Visual Memory Test-Revised (BVM-T-R)

Delis-Kaplan Executive Function System (D-KEFS)

Glasgow Outcome Scale – Extended (GOS-E)

Repeatable Battery for the Assessment of Neuropsychological Status (RBANS)

Automated Neuropsychological Assessment Metrics (ANAM)

Psychomotor Vigilance Test (PVT)

Go/No Go

Connor- Davidson Resilience Scale (CD-RISC)

Beck Depression Inventory (BDI-II)

Snaith Hamilton Pleasure Scale (SHAPS)

State Trait Anxiety Inventory (STAI)

Personality Assessment Inventory (PAI)

Craig Handicap Assessment and Reporting Technique Short Form (CHART-SF)

MINI International Psychiatric Interview (MINI)

Wechsler Abbreviated Scale of Intelligence (WASI II)

TBI Interview

Rivermead Post Concussion Symptoms Questionnaire (RPCSQ)

Satisfaction With Life Scale (SWLS)

Alcohol Use Disorder Identification Test (AUDIT)

Day of Scan Questionnaire

Epworth Sleepiness Scale (ESS)

Pittsburgh Sleep Quality Index (PSQI)

Buss Perry Aggression





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**Author(s):** Dean C. Delis, Joel H. Kramer, Edith Kaplan, Beth A. Ober

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- Technologically advanced scoring system

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New items provide more comprehensive information than ever before. Examinees are read a list of words, selected after careful study of their frequency of use across multiple demographic variables, and asked to recall them across a series of trials. In addition to recall and recognition scores, CVLT–II measures encoding strategies, learning rates, error types, and other process data. CVLT–II includes forced-choice items useful for detecting malingering, thereby helping to reduce false results.

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New options provide flexibility in test administration. You can use the Short Form when exam time is limited or when you need less detailed test information. The Short Form is also helpful when examinee fatigue is a concern, or severe memory or cognitive deficits make the Standard or Alternate Forms impractical. The Short Form features lists of nine words in three categories and takes only 15 minutes to administer (plus two delay periods totaling 15 minutes). The new Alternate Form prevents artificially inflated scores when re-testing is necessary. The Standard and Alternate Forms can be administered in 30 minutes, with an additional 30-minute delay.

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The CVLT–II *Comprehensive Scoring System* provides rich information not available through typical hand scoring. The most technologically advanced scoring software yet, it offers multiple scoring options, varying from brief to highly detailed information.

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**California Verbal Learning Test® – Second Edition (CVLT® –II)**

Qty	Code	Name	Price
<input type="text"/>	015-8035-720	CVLT–II - Complete Kit CD-ROM Version Kit - Includes Software package, Manual, 25 Standard Record Forms, 1 Alternate Record Form, and 25 Short Record Forms.	\$675.00

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**CVLT–II - Manual**

Qty	Code	Name	Price
		Approved McLean IRB 2012p001515 08/31/2012 through 08/30/2013	



015-8035-739

CVLT-II - Manual

\$145.00

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Qty	Code	Name	Price
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	015-8035-78X	CVLT-II - Alternate Record Forms - Pkg of 25	\$78.75

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Qty	Code	Name	Price
	015-8035-801	Software package, CD-ROM Package	\$451.68

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### Brief Visuospatial Memory Test-Revised (BVM-T-R™)

Ralph H. B. Benedict, PhD, ABCN



Validity studies were conducted with patients who had HIV-1 associated cognitive dysfunction, primary progressive dementia, and focal amnesia.

Like 1

**Purpose:** Measure visuospatial memory

**Age range:** 18 to 79 years

**Admin:** Individual

**Admin time:** 45 minutes timed (includes 25-minute delay)

**Scoring time:** 25 minutes

**Qualification level:** C

[Click here](#) for pricing.

## Supplemental Product Resources

[Click here](#) for the BVM-T-R bibliography. Note: You will need [Adobe® Reader®](#) to view the bibliography.

A measure of visuospatial memory, the BVM-T-R can be used as part of a large neuropsychological battery, as a screening measure, and as a repeat measure to document changes over time.

## Designed for easy administration in clinical settings or at the bedside

- Six equivalent, alternate stimulus forms consist of six geometric figures printed in a 2 x 3 array on separate pages.
- In three Learning Trials, the respondent views the stimulus page for 10 seconds and is asked to draw as many of the figures as possible in their correct location on a page in the response booklet. A Delayed Recall Trial is administered after a 25-minute delay.
- Last, a Recognition Trial, in which the respondent is asked to identify which of 12 figures were included among the original geometric figures, is administered.
- An optional Copy Trial may be administered to screen for severe visuoconstructive deficits and to help in scoring recall responses.
- Reliability coefficients range from .96 to .97 for the three Learning trials, .97 for Total Recall, and .97 for Delayed Recall. Test-retest reliability coefficients range from .60 for Trial 1 to .84 for Trial 3. The BVM-T-R correlates most strongly with other tests of visual memory and less strongly with tests of verbal memory.


**Note:** [Stopwatch](#) is required for administration.

## Kits






Item number

Product description


List price

<b>WW-3607-KT</b>	<b>BVMT-R Introductory Kit</b> includes BVMT-R Professional Manual, HVLt-R/BVMT-R Professional Manual Supplement, Recognition Stimulus Booklet, Reusable Recall Stimulus Booklet, and 25 Response Forms	<b>\$336.00</b>	
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## Manuals, Books, and Equipment

Item number	Product description	List price	
<b>WW-10279-EM</b>	<b>Now Available!</b> <b>BVMT-R e-Manual</b> e-Manuals are not returnable. Please see our <a href="#">FAQ</a> before ordering e-Manuals.	<b>\$51.00</b>	
<b>WW-3608-TM</b>	<b>BVMT-R Professional Manual</b>	<b>\$60.00</b>	
<b>WW-3609-TC</b>	<b>BVMT-R Recognition Stimulus Booklet</b> easel format	<b>\$158.00</b>	
<b>WW-3610-TC</b>	<b>BVMT-R Reusable Recall Stimulus Booklet</b> reusable	<b>\$46.00</b>	
<b>WW-6023-TM</b>	<b>HVLt-R/BVMT-R Professional Manual Supplement</b>	<b>\$32.00</b>	

## Forms and Booklets

Item number	Product description	List price	
<b>WW-3611-RF</b>	<b>BVMT-R Response Forms (pkg/25)</b>	<b>\$70.00</b>	

## Related Products

[Hopkins Verbal Learning Test-Revised™ \(HVLt-R™\)](#)

[Continuous Visual Memory Test \(CVMT\)](#)

[Hopkins Verbal Learning Test-Revised™/Brief Visuospatial Memory Test-Revised™ Software Portfolio \(HVLt-R™/BVMT-R™ SP\)](#)

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DELIS • KAPLAN  
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Executive Function System™



Glasgow Outcome Scale - Extended

Patient's name: \_\_\_\_\_

Date of interview: \_\_\_\_\_

Date of Birth: \_\_\_\_\_

Date of injury: \_\_\_\_\_

Gender: M / F

Age at injury: \_\_\_\_\_

Interval post-injury: \_\_\_\_\_

Respondent: Patient alone \_\_\_\_ Relative/ friend/ carer alone \_\_\_\_ Patient + relative/ friend/ carer \_\_\_\_

Interviewer: \_\_\_\_\_

CONSCIOUSNESS

1. Is the head injured person able to obey simple commands, or say any words?

☐

1 = No (VS)  
2 = Yes

Anyone who shows ability to obey even simple commands, or utter any word or communicate specifically in any other way is no longer considered to be in the vegetative state. Eye movements are not reliable evidence of meaningful responsiveness. Corroborate with nursing staff. Confirmation of VS requires full assessment as in the Royal College of Physician Guidelines.

INDEPENDENCE IN THE HOME

- 2a Is the assistance of another person at home essential every day for some activities of daily living?

☐

1 = No  
2 = Yes

For a 'No' answer they should be able to look after themselves at home for 24 hours if necessary, though they need not actually look after themselves. Independence includes the ability to plan for and carry out the following activities: getting washed, putting on clean clothes without prompting, preparing food for themselves, dealing with callers, and handling minor domestic crises. The person should be able to carry out activities without needing prompting or reminding, and should be capable of being left alone overnight.

- 2b Do they need frequent help or someone to be around at home most of the time?

☐

1 = No (Upper SD)  
2 = Yes (Lower SD)

For a 'No' answer they should be able to look after themselves at home for up to 8 hours during the day if necessary, though they need not actually look after themselves.

- 2c Was assistance at home essential before the injury?

☐

1 = No  
2 = Yes

INDEPENDENCE OUTSIDE THE HOME

- 3a Are they able to shop without assistance?

☐

1 = No (Upper SD)  
2 = Yes

This includes being able to plan what to buy, take care of money themselves, and behave appropriately in public. They need not normally shop, but must be able to do so.

- 3b Were they able to shop without assistance before the injury?

☐

1 = No  
2 = Yes

- 4a Are they able to travel locally without assistance?

☐

1 = No (Upper SD)  
2 = Yes

They may drive or use public transport to get around. Ability to use a taxi is sufficient, provided the person can phone for it themselves and instruct the driver.

- 4b Were they able to travel without assistance before the injury?

☐

1 = No  
2 = Yes

## WORK

5a Are they currently able to work to their previous capacity?

☐1 = No  
2 = Yes

If they were working before, then their current capacity for work should be at the same level. If they were seeking work before, then the injury should not have adversely affected their chances of obtaining work or the level of work for which they are eligible. If the patient was a student before injury then their capacity for study should not have been adversely affected.

5b How restricted are they?

a) Reduced work capacity.

b) Able to work only in a sheltered workshop or non-competitive job, or currently unable to work.

☐1 = a (Upper MD)  
2 = b (Lower MD)

5c Were they either working or seeking employment before the injury (answer 'yes') or were they doing neither (answer 'no')?

☐1 = No  
2 = Yes

## SOCIAL &amp; LEISURE ACTIVITIES

6a Are they able to resume regular social and leisure activities outside home?

☐1 = No  
2 = Yes

They need not have resumed all their previous leisure activities, but should not be prevented by physical or mental impairment. If they have stopped the majority of activities because of loss of interest or motivation then this is also considered a disability.

6b What is the extent of restriction on their social and leisure activities?

a) Participate a bit less: at least half as often as before injury.

b) Participate much less: less than half as often.

c) Unable to participate: rarely, if ever, take part.

☐1 = a (Lower GR)  
2 = b (Upper MD)  
3 = c (Lower MD)

6c Did they engage in regular social and leisure activities outside home before the injury?

☐1 = No  
2 = Yes

## FAMILY &amp; FRIENDSHIPS

7a Have there been psychological problems which have resulted in ongoing family disruption or disruption to friendships?

☐1 = No  
2 = Yes

Typical post-traumatic personality changes: quick temper, irritability, anxiety, insensitivity to others, mood swings, depression, and unreasonable or childish behaviour.

7b What has been the extent of disruption or strain?

a) Occasional - less than weekly

b) Frequent - once a week or more, but tolerable.

c) Constant - daily and intolerable.

☐1 = a (Lower GR)  
2 = b (Upper MD)  
3 = c (Lower MD)

7c Were there problems with family or friends before the injury?

☐1 = No  
2 = Yes

If there were some problems before injury, but these have become markedly worse since injury then answer 'No' to Q 7c.

## RETURN TO NORMAL LIFE

8a Are there any other current problems relating to the injury which affect daily life?

☐1 = No (Upper GR)  
2 = Yes (Lower GR)

Other typical problems reported after head injury: headaches, dizziness, tiredness, sensitivity to noise or light, slowness, memory failures, and concentration problems.

8b Were similar problems present before the injury?

☐1 = No  
2 = Yes

If there were some problems before injury, but these have become markedly worse since injury then answer 'No' to Q 8b.

## STRUCTURED INTERVIEWS FOR THE GOS AND GOSE

### Epilepsy:

Since the injury has the head injured person had any epileptic fits?

No / Yes

Have they been told that they are currently at risk of developing epilepsy?

No / Yes

What is the most important factor in outcome?

Effects of head injury \_\_\_\_ Effects of illness or injury to another part of the body \_\_\_\_ A mixture of these \_\_\_\_

Scoring: The patient's overall rating is based on the lowest outcome category indicated on the scale. Refer to Guidelines for further information concerning administration and scoring

1	Dead
2	Vegetative State (VS)
3	Lower Severe Disability (Lower SD)
4	Upper Severe Disability (Upper SD)
5	Lower Moderate Disability (Lower MD)
6	Upper Moderate Disability (Upper MD)
7	Lower Good Recovery (Lower GR)
8	Upper Good Recovery (Upper GR)

☐

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Repeatable Battery for the Assessment  
of Neuropsychological Status  
Christopher Randolph

# Record Form A

Name \_\_\_\_\_ Age \_\_\_\_\_ Sex \_\_\_\_\_ Education Level \_\_\_\_\_

Examiner \_\_\_\_\_ Date of Testing \_\_\_\_\_ Ethnicity \_\_\_\_\_

Observations: \_\_\_\_\_

	Immediate Memory	Visuospatial/ Constructional	Language	Attention	Delayed Memory	Total Scale	
Index Score							
Confidence Interval %							
Percentile							
Index Score						Percentile Rank	Total Scale Index Score
160						>99.9	160
155						>99.9	155
150						>99.9	150
145						99.9	145
140						99.6	140
135						99	135
130						98	130
125						95	125
120						91	120
115						84	115
110						75	110
105						63	105
100						50	100
95						37	95
90						25	90
85						16	85
80						9	80
75						5	75
70						2	70
65						1	65
60						0.4	60
55						0.1	55
50						<0.1	50
45						<0.1	45
40						<0.1	40

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# 1 List Learning

## Trial 1

Say *I am going to read you a list of words. I want you to listen carefully and, when I finish, repeat back as many words as you can. You don't have to say them in the same order that I do—just repeat back as many words as you can remember, in any order. Okay?*

## Trials 2–4

Say *I am going to read the list again. When I finish, repeat back as many words as you can, even if you have already said them before. Okay?*

Record responses in order.

Scoring: 1 point for each word correctly recalled on each trial.

List	Trial 1	Trial 2	Trial 3	Trial 4
Market				
Package				
Elbow				
Apple				
Story				
Carpet				
Bubble				
Highway				
Saddle				
Powder				

Number Correct	+	+	+	=	
	Total Trial 1	Total Trial 2	Total Trial 3	Total Trial 4	Total Score Range=0–40

## 2 Story Memory

### Trial 1

Say ***I am going to read you a short story. I'd like you to listen carefully and, when I finish, repeat back as much of the story as you can remember. Try and use the same wording, if you can. Okay?***

Read the story below, then say ***Now repeat back as much of that story as you can.***

### Trial 2

Say ***I am going to read that same story again. When I finish, I want you to again repeat back as much of the story as you can remember. Try to repeat it as exactly as you can.***

Read the story below, then say ***Now repeat back as much of that story as you can.***

Scoring: 1 point for verbatim recall of bold, italic words or alternatives, shown below in color within parentheses. Record intrusions or variations in the Responses column.

Story	Responses	Trial 1 Score (0 or 1)	Trial 2 Score (0 or 1)	Item Score (0-2)
1. On <b>Tuesday</b> ,				
2. <b>May</b>				
3. <b>Fourth</b> ,				
4. in <b>Cleveland</b> , Ohio,				
5. a <b>3 alarm</b>				
6. <b>fire</b> broke out.				
7. <b>Two</b>				
8. <b>hotels</b>				
9. and a <b>restaurant</b>				
10. were <b>destroyed</b>				
11. before the <b>firefighters (firemen)</b>				
12. were able to <b>extinguish it (put it out)</b> .				
Total Score (Trial 1 + Trial 2) Range=0-24				

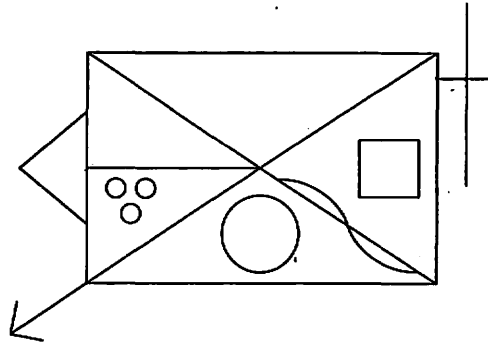
### 3 Figure Copy



Time Limit: 4 minutes

Fold this page back and present the Figure Copy Drawing Page along with the stimulus. Ask the examinee to make an exact copy of the figure. Tell the examinee that he or she is being timed, but that the score is based *only* on the exactness of his or her copy.

Scoring: 1 point for correctness and completeness (drawing), and 1 point for proper placement. See Appendix 1 in Stimulus Booklet A for complete scoring criteria and scoring examples.



### Figure Copy Criteria

(Fold back for use.)

Item	Drawing (0 or 1)	Placement (0 or 1)	Score (0, 1, or 2)	Scoring Criteria
1. rectangle				Drawing: lines are unbroken and straight; angles 90 degrees; top/bottom lines 25% longer than sides Placement: not rotated more than 15 degrees
2. diagonal cross				Drawing: lines are unbroken and straight and should approximately bisect each other Placement: ends of lines should meet corners of the rectangle without significant overlap or measurable distance between the ends of the lines and the corners
3. horizontal line				Drawing: line is unbroken and straight; should not exceed 1/2 the length of the rectangle Placement: should bisect left side of the rectangle at approximately a right angle and intersect the diagonal cross
4. circle				Drawing: round, unbroken and closed; diameter should be approximately 1/4–1/3 height of rectangle Placement: placed in appropriate segment; not touching any other part of figure
5. 3 small circles				Drawing: round, unbroken and closed; equal size; triangular arrangement; not touching each other Placement: in appropriate segment; not touching figure; triangle formed not rotated more than 15 degrees
6. square				Drawing: must be closed; 90 degree angles; lines straight and unbroken; height is 1/4–1/3 height of rectangle Placement: in appropriate segment; not touching any other part of figure; not rotated more than 15 degrees
7. curving line				Drawing: 2 curved segments are approximately equal in length and symmetrical; correct direction of curves Placement: ends of line touch diagonal; do not touch corner of rectangle or intersection of diagonal lines
8. outside cross				Drawing: vertical line of the outside cross is parallel to side of rectangle; >1/2 the height of rectangle; horizontal line crosses vertical at 90 degree angle and is between 20–50% of length of vertical line Placement: horizontal line of outside cross touches rectangle higher than 2/3 the height of rectangle, but below top; does not penetrate the rectangle
9. triangle				Drawing: angle formed by 2 sides of triangle is between 60–100 degrees; sides are straight, unbroken and meet in a point; distance on vertical side of rectangle subsumed by triangle is approximately 50% of the height of vertical side Placement: roughly centered on the left vertical side of the rectangle
10. arrow				Drawing: straight and unbroken; lines forming arrow are approximately equal in length and not more than 1/3 length of staff Placement: must protrude from appropriate corner of rectangle such that staff appears to be continuation of diagonal cross

Total Score  
Range=0–20

# Figure Copy Drawing Page

(Fold back for use.)

## 4 Line Orientation



Time Limit: 20 seconds/item

Present the sample item, and say **These two lines down here (indicate) match two of the lines on top. Can you tell me the numbers, or point to the lines that they match?** Correct any errors and make sure the examinee understands the task. Continue with Items 1–10.

Scoring: 1 point for each line correctly identified.

Item	Responses	Correct Responses	Score (0, 1, or 2)
Sample		1, 7	
1.		10, 12	
2.		4, 11	
3.		6, 9	
4.		8, 13	
5.		2, 4	

Item	Responses	Correct Responses	Score (0, 1, or 2)
6.		1, 6	
7.		3, 10	
8.		5, 8	
9.		1, 3	
10.		11, 13	
Total Score Range=0–20			

## 5 Picture Naming



Time Limit: 20 seconds/item

Ask the examinee to name each picture. Give the semantic cue only if the picture is obviously misperceived.

Scoring: 1 point for each item that is correctly named spontaneously or following semantic cue.

Item	Semantic Cue	Responses	Score (0 or 1)
1. chair	a piece of furniture		
2. pencil	used for writing		
3. well	you get water from it		
4. giraffe	an animal		
5. sailboat	used on the water (if "boat," query "what kind")		
6. cannon	a weapon, used in war		
7. pliers	a tool		
8. trumpet	a musical instrument ("cornet" okay)		
9. clothespin	used to hold laundry on a line		
10. kite	it's flown in the air		
Total Score Range=0–10			

## 6 Semantic Fluency



Time Limit: 60 seconds

Say **Now I'd like you to tell me the names of all of the different kinds of fruits and vegetables that you can think of. I'll give you one minute to come up with as many as you can. Ready?**

Scoring: 1 point for each correct response.

1. _____	11. _____	21. _____	31. _____
2. _____	12. _____	22. _____	32. _____
3. _____	13. _____	23. _____	33. _____
4. _____	14. _____	24. _____	34. _____
5. _____	15. _____	25. _____	35. _____
6. _____	16. _____	26. _____	36. _____
7. _____	17. _____	27. _____	37. _____
8. _____	18. _____	28. _____	38. _____
9. _____	19. _____	29. _____	39. _____
10. _____	20. _____	30. _____	40. _____

Total Score  
Range=0-40

## 7 Digit Span

Say **I am going to say some numbers, and I want you to repeat them after me. Okay?**

Read the numbers at the rate of 1 per second. Only read the second string in each set if the first string was failed. Discontinue after failure of both strings in any set.

Scoring: 2 points for the first string correct, 1 point for the second string correct, and 0 points for both strings failed.

Item	First String	String Score (0 or 2)	Second String	String Score (0 or 1)	Item Score (0-2)
1.	4-9		5-3		
2.	8-3-5		2-4-1		
3.	7-2-4-6		1-6-3-8		
4.	5-3-9-2-4		3-8-4-9-1		
5.	6-4-2-9-3-5		9-1-5-3-7-6		
6.	2-8-5-1-9-3-7		5-3-1-7-4-9-2		
7.	8-3-7-9-5-2-4-1		9-5-1-4-2-7-3-8		
8.	1-5-9-2-3-8-7-4-6		5-1-9-7-6-2-3-6-5		

Total Score  
Range=0-16



Say **Look at these boxes** (indicate key). **For each one of these marks there is a number that goes with it. Down here there are marks, but no numbers. I want you to fill in the number that goes with each mark.**

Demonstrate the first three. Say **Now I would like you to fill in the rest of these boxes up to the double lines** (indicate) **for practice**. Correct any errors as they are made. Make sure that the examinee understands the task and has correctly completed the sample items before you begin timing.

Say **Now I would like you to continue to fill in the numbers that match the marks. Go as quickly as you can without skipping any. When you reach the end of the line, go on to the next one. Ready? Go ahead.**

Redirect the examinee to the task if he or she becomes distracted. If the examinee is unable to comprehend the task, the subtest score is 0.

Scoring: 1 point for each item correctly coded within 90 seconds (*do not* score the sample items).

Note: Familiarize yourself with these instructions before administering this subtest.

Total Score  
Range=0–89

## 9 List Recall

Say ***Do you remember the list of words that I read to you in the beginning? Tell me as many of those words as you can remember now.***

Scoring: 1 point for each word correctly recalled.

List (Do not read.)	Response	Score (0 or 1)
Market		
Package		
Elbow		
Apple		
Story		
Carpet		
Bubble		
Highway		
Saddle		
Powder		
Total Score Range=0–10		

## 10 List Recognition

Say ***I'm going to read you some words. Some of these words were on that list, and some of them weren't. I want you to tell me which words were on the list.*** For each word, ask ***Was \_\_\_\_\_ on the list?***

Scoring: 1 point for each word correctly identified. Circle the letter corresponding to examinee's response (y = yes, n = no); bold, capitalized (Y, N) letter indicates correct response.

List	Circle One	List	Circle One	List	Circle One	List	Circle One
1. Apple	Y n	6. sailor	y N	11. Bubble	Y n	16. Saddle	Y n
2. honey	y N	7. velvet	y N	12. prairie	y N	17. Powder	Y n
3. Market	Y n	8. Carpet	Y n	13. Highway	Y n	18. angel	y N
4. Story	Y n	9. valley	y N	14. oyster	y N	19. Package	Y n
5. fabric	y N	10. Elbow	Y n	15. student	y N	20. meadow	y N

Total Score  
Range=0–20



# 11 Story Recall

Say: ***Do you remember that story about a fire that I read to you earlier? Tell me as many details from the story as you can remember now.***

Scoring: 1 point for each verbatim recall of bold, italic words or alternatives, shown below in color within parentheses. Record intrusions or variations in the Responses column.

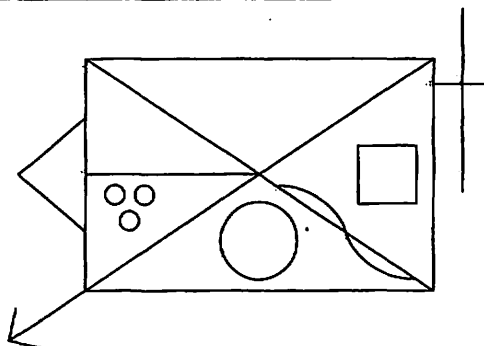
Story (Do not read.)	Responses	Item Score (0 or 1)
1. On <b><i>Tuesday</i></b> ,		
2. <b><i>May</i></b>		
3. <b><i>Fourth</i></b> ,		
4. in <b><i>Cleveland</i></b> , Ohio,		
5. a <b><i>3 alarm</i></b>		
6. <b><i>fire</i></b> broke out.		
7. <b><i>Two</i></b>		
8. <b><i>hotels</i></b>		
9. and a <b><i>restaurant</i></b>		
10. were <b><i>destroyed</i></b>		
11. before the <b><i>firefighters (firemen)</i></b>		
12. were able to <b><i>extinguish it (put it out)</i></b> .		
Total Score Range=0-12		

## 12 Figure Recall

Say *Do you remember that figure that I had you copy? I want you to draw as much of it as you can remember now. If you remember a part, but you're not sure where it goes, put it anywhere. Try to draw as much of it as you can.*

Now, present the Figure Recall Drawing Page.

Scoring: 1 point for correctness and completeness (drawing), and 1 point for proper placement. See Appendix 1 in Stimulus Booklet A for complete scoring criteria and scoring examples.



### Figure Recall Criteria

(Fold back for use.)

Item	Drawing (0 or 1)	Placement (0 or 1)	Score (0, 1, or 2)	Scoring Criteria
1. rectangle				Drawing: lines are unbroken and straight; angles 90 degrees; top/bottom lines 25% longer than sides Placement: not rotated more than 15 degrees
2. diagonal cross				Drawing: lines are unbroken and straight and should approximately bisect each other Placement: ends of lines should meet corners of the rectangle without significant overlap or measurable distance between the ends of the lines and the corners
3. horizontal line				Drawing: line is unbroken and straight; should not exceed 1/2 the length of the rectangle Placement: should bisect left side of the rectangle at approximately a right angle and intersect the diagonal cross
4. circle				Drawing: round, unbroken and closed; diameter should be approximately 1/4–1/3 height of rectangle Placement: placed in appropriate segment; not touching any other part of figure
5. 3 small circles				Drawing: round, unbroken and closed; equal size; triangular arrangement; not touching each other Placement: in appropriate segment; not touching figure; triangle formed not rotated more than 15 degrees
6. square				Drawing: must be closed; 90 degree angles; lines straight and unbroken; height is 1/4–1/3 height of rectangle Placement: in appropriate segment; not touching any other part of figure; not rotated more than 15 degrees
7. curving line				Drawing: 2 curved segments are approximately equal in length and symmetrical; correct direction of curves Placement: ends of line touch diagonal; do not touch corner of rectangle or intersection of diagonal lines
8. outside cross				Drawing: vertical line of the outside cross is parallel to side of rectangle; >1/2 the height of rectangle; horizontal line crosses vertical at 90 degree angle and is between 20–50% of length of vertical line Placement: horizontal line of outside cross touches rectangle higher than 2/3 the height of rectangle, but below top; does not penetrate the rectangle
9. triangle				Drawing: angle formed by 2 sides of triangle is between 60–100 degrees; sides are straight, unbroken and meet in a point; distance on vertical side of rectangle subsumed by triangle is approximately 50% of the height of vertical side Placement: roughly centered on the left vertical side of the rectangle
10. arrow				Drawing: straight and unbroken; lines forming arrow are approximately equal in length and not more than 1/3 length of staff Placement: must protrude from appropriate corner of rectangle such that staff appears to be continuation of diagonal cross

Total Score  
Range=0–20

# Figure Recall Drawing Page

(Fold back for use.)

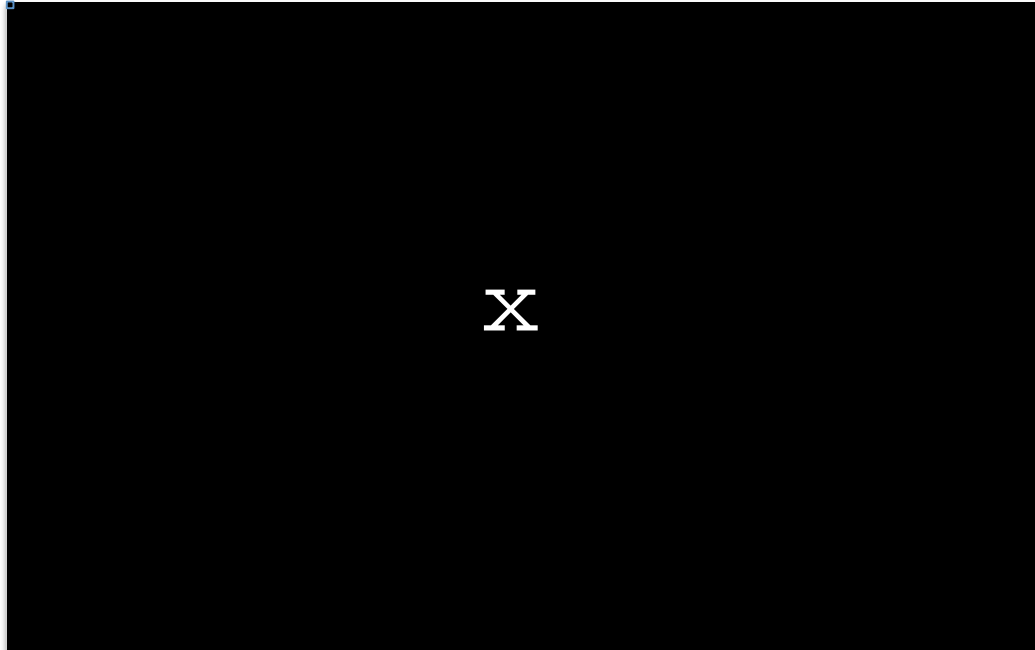


# ANAM4<sup>TM</sup>

*Automated Neuropsychological Assessment Metrics*

## Psychomotor Vigilance Test

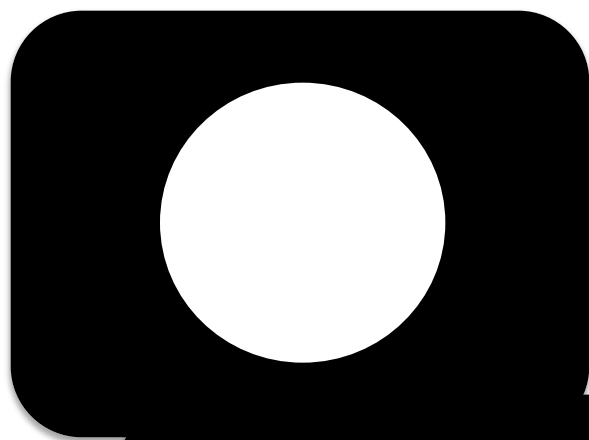
Press the spacebar every time an “x” appears on the screen.



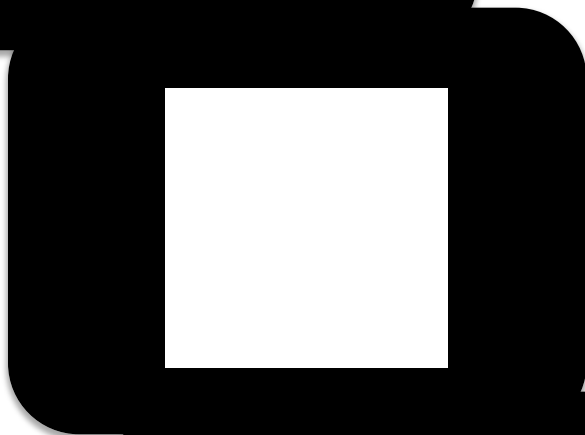
DELIS • KAPLAN  
**D·KEFS™**  
Executive Function System™



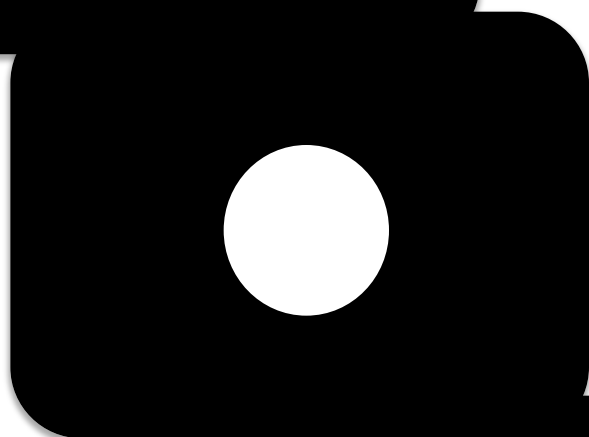
## Go/No-Go Task



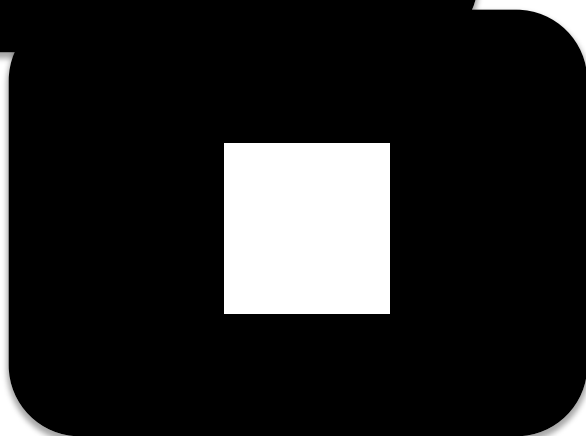
Go



Go



Go



No Go

## CD-RISC

Subject: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Think about how you have been feeling over the past month. Using the scale below, please rate each of the following statements for how well they describe you **DURING THE PAST MONTH.**

0	1	2	3	4
not true at all	rarely true	sometimes true	often true	true nearly all the time

1. \_\_\_\_\_ Able to adapt to change
2. \_\_\_\_\_ Close and secure relationships
3. \_\_\_\_\_ Sometimes fate or God can help
4. \_\_\_\_\_ Can deal with whatever comes
5. \_\_\_\_\_ Past success gives confidence for new challenge
6. \_\_\_\_\_ See the humorous side of things
7. \_\_\_\_\_ Coping with stress strengthens
8. \_\_\_\_\_ Tend to bounce back after illness or hardship
9. \_\_\_\_\_ Things happen for a reason
10. \_\_\_\_\_ Best effort no matter what
11. \_\_\_\_\_ You can achieve your goals
12. \_\_\_\_\_ When things look hopeless, I don't give up
13. \_\_\_\_\_ Know where to turn for help
14. \_\_\_\_\_ Under pressure, focus and think clearly
15. \_\_\_\_\_ Prefer to take the lead in problem solving
16. \_\_\_\_\_ Not easily discouraged by failure
17. \_\_\_\_\_ Think of self as strong person
18. \_\_\_\_\_ Make unpopular or difficult decisions
19. \_\_\_\_\_ Can handle unpleasant feelings
20. \_\_\_\_\_ Have to act on a hunch
21. \_\_\_\_\_ Strong sense of purpose
22. \_\_\_\_\_ In control of your life
23. \_\_\_\_\_ I like challenges
24. \_\_\_\_\_ You work to attain your goals
25. \_\_\_\_\_ Pride in your achievements



**Participant #:**\_\_\_\_\_

**Date:**\_\_\_\_\_

**BDI - II**

This questionnaire consists of 21 groups of statements. Please read each group of statements carefully, and then pick out the ONE STATEMENT in each group that best describes the way you have been feeling during the PAST TWO WEEKS, INCLUDING TODAY. Circle the number beside the statement you have picked. If several statements in the group seem to apply equally well, circle the highest number for that group. Be sure that you do not choose more than one statement for any group, including Item 16 (Changes in sleeping pattern) or Item 18 (Changes in Appetite).

### **1. Sadness**

- 0 I do not feel sad.
- 1 I feel sad much of the time.
- 2 I am sad all the time
- 3 I am so sad or unhappy that I can't stand it.

### **2. Pessimism**

- 0 I am not discouraged about my future.
- 1 I feel more discouraged about my future than I used to be.
- 2 I do not expect things to work out for me.
- 3 I feel that my future is hopeless and will only get worse.

### **3. Past Failure**

- 0 I do not feel like a failure.
- 1 I have failed more than I should have.
- 2 As I look back, I see a lot of failures.
- 3 I feel I am a total failure as a person.

### **4. Loss of Pleasure**

- 0 I get as much pleasure as I ever did from the things I enjoy.
- 1 I don't enjoy things as much as I used to.
- 2 I get very little pleasure from the things I used to enjoy.
- 3 I can't get any pleasure from the things I used to enjoy.

### **5. Guilty Feelings**

- 0 I don't feel particularly guilty.
- 1 I feel guilty over many things I have done or should have done.
- 2 I feel quite guilty most of the time.
- 3 I feel guilty all of the time.

## **6. Punishment Feelings**

- 0 I don't feel I am being punished.
- 1 I feel I may be punished.
- 2 I expect to be punished.
- 3 I feel I am being punished.

## **7. Self-Dislike**

- 0 I feel the same about myself as ever.
- 1 I have lost confidence in myself.
- 2 I am disappointed in myself.
- 3 I dislike myself.

## **8. Self-Criticalness**

- 0 I don't criticize or blame myself more than usual.
- 1 I am more critical of myself than I used to be.
- 2 I criticize myself for all of my faults.
- 3 I blame myself for everything bad that happens.

## **9. Suicidal Thoughts or Wishes**

- 0 I don't have any thoughts of killing myself.
- 1 I have thoughts of killing myself, but I would not carry them out.
- 2 I would like to kill myself.
- 3 I would kill myself if I had the chance.

## **10. Crying**

- 0 I don't cry any more than I used to.
- 1 I cry more than I used to
- 2 I cry over every little thing.
- 3 I feel like crying, but I can't.

**11. Agitation**

- 0 I am no more restless or wound up than usual.
- 1 I feel more restless or wound up than usual.
- 2 I am so restless or agitated that it's hard to stay still.
- 3 I am so restless or agitated that I have to keep moving or doing something.

**12. Loss of Interest**

- 0 I have not lost interest in other people or activities
- 1 I am less interested in other people or things than before.
- 2 I have lost most of my interest in other people or things
- 3 It's hard to get interested in anything.

**13. Indecisiveness**

- 0 I make decisions about as well as ever.
- 1 I find it more difficult to make decisions than usual.
- 2 I have much greater difficulty in making decisions than I used to.
- 3 I have trouble making any decisions.

**14. Worthlessness**

- 0 I don't feel I am worthless.
- 1 I do not consider myself as worthwhile and useful as I used to.
- 2 I feel more worthless as compared to other people.
- 3 I feel utterly worthless.

**15. Loss of Energy**

- 0 I have as much energy as ever.
- 1 I have less energy than I used to have.
- 2 I don't have enough energy to do very much.
- 3 I don't have enough energy to do anything.

## **16. Changes in Sleeping Pattern**

0 I have not experienced any change in my sleeping pattern.

-----

1a I sleep somewhat more than usual.

1b I sleep somewhat less than usual.

-----

2a I sleep a lot more than usual.

2b I sleep a lot less than usual.

-----

3a I sleep most of the day.

3b I wake up 1-2 hours early and can't get back to sleep.

## **17. Irritability**

0 I am no more irritable than usual.

1 I am more irritable than usual.

2 I am much more irritable than usual.

3 I am irritable all the time.

## **18. Changes in Appetite**

0 I have not experienced any change in my appetite

-----

1a My appetite is somewhat less than usual.

1b My appetite is somewhat greater than usual.

-----

2a My appetite is much less than before.

2b My appetite is much greater than usual.

-----

3a I have no appetite at all.

3b I crave food all the time.

## **19. Concentration Difficulty**

0 I can concentrate as well as ever.

1 I can't concentrate as well as usual.

2 It's hard to keep my mind on anything for very long.

3 I find I can't concentrate on anything.

**20. Tiredness or Fatigue**

- 0 I am no more tired or fatigued than usual.
- 1 I get more tired or fatigued more easily than usual.
- 2 I am too tired or fatigued to do a lot of the things I used to do.
- 3 I am too tired or fatigued to do most of the things I used to do.

**21. Loss of interest in Sex**

- 0 I have not noticed any recent change in my interest in sex.
- 1 I am less interested in sex than I used to be.
- 2 I am much less interested in sex now.
- 3 I have lost interest in sex completely.

## Snaith-Hamilton Pleasure Scale

This questionnaire is designed to measure your ability to experience pleasure in the last few days.

It is important to read each statement very carefully.

Circle the answer that corresponds to how much you agree or disagree with each statement.

- |  |          |          |                   |
|--|----------|----------|-------------------|
| 1. I would enjoy my favorite television or radio program. ....Strongly Disagree  | Disagree | Agree    | Strongly Agree    |
| 2. I would enjoy being with my family or close friends. ....Definitely Agree   | Agree    | Disagree | Strongly Disagree |
| 3. I would find pleasure in my hobbies and past-times. ....Strongly Disagree   | Disagree | Agree    | Strongly Agree    |
| 4. I would be able to enjoy my favorite meal. ....Definitely Agree   | Agree    | Disagree | Strongly Disagree |
| 5. I would enjoy a warm bath or refreshing shower. ....Definitely Agree  | Agree    | Disagree | Strongly Disagree |
| 6. I would find pleasure in the scent of flowers or the smell<br>of a fresh sea breeze or freshly baked bread. ....Strongly Disagree | Disagree | Agree    | Strongly Agree    |
| 7. I would enjoy seeing other people's smiling faces. ....Definitely Agree   | Agree    | Disagree | Strongly Disagree |
| 8. I would enjoy looking smart when I have made<br>an effort with my appearance. ....Strongly Disagree                               | Disagree | Agree    | Strongly Agree    |
| 9. I would enjoy reading a book, magazine, or newspaper. ....Definitely Agree  | Agree    | Disagree | Strongly Disagree |
| 10. I would enjoy a cup of tea or coffee or my favorite drink. ....Strongly Disagree   | Disagree | Agree    | Strongly Agree    |
| 11. I would find pleasure in small things, e.g. bright sunny day,<br>a telephone call from a friend. ....Strongly Disagree           | Disagree | Agree    | Strongly Agree    |
| 12. I would be able to enjoy a beautiful landscape or view. ....Definitely Agree   | Agree    | Disagree | Strongly Disagree |
| 13. I would get pleasure from helping others. ....Strongly Disagree  | Disagree | Agree    | Strongly Agree    |
| 14. I would feel pleasure when I receive praise from other people. ....Definitely Agree  | Agree    | Disagree | Strongly Disagree |

STAI Form S

Name: \_\_\_\_\_ Date: \_\_\_\_\_

DIRECTIONS: A number of statements which people have used to describe themselves are given below. Read each statement and then circle the appropriate number to the right of the statement to indicate how you feel right now, THAT IS, at this moment.

There are no right or wrong answers.  
Do not spend too much time on any one statement but give the answer which seems to describe your present feelings best.

	Not at all	Somewhat	Moderately so	Very much so
1. I feel calm. . . . .	1	2	3	4
2. I feel secure. . . . .	1	2	3	4
3. I am tense . . . . .	1	2	3	4
4. I feel regretful . . . . .	1	2	3	4
5. I feel at ease . . . . .	1	2	3	4
6. I feel upset . . . . .	1	2	3	4
7. I am presently worrying over possible misfortunes. . . . .	1	2	3	4
8. I feel rested. . . . .	1	2	3	4
9. I feel anxious . . . . .	1	2	3	4
10. I feel comfortable . . . . .	1	2	3	4
11. I feel self-confident. . . . .	1	2	3	4
12. I feel nervous . . . . .	1	2	3	4
13. I am jittery . . . . .	1	2	3	4
14. I feel "high strung" . . . . .	1	2	3	4
15. I am relaxed . . . . .	1	2	3	4
16. I feel content . . . . .	1	2	3	4
17. I am worried . . . . .	1	2	3	4
18. I feel over-excited and "rattled". . . . .	1	2	3	4
19. I feel joyful. . . . .	1	2	3	4
20. I feel pleasant. . . . .	1	2	3	4



## STAI Form T

NAME \_\_\_\_\_ DATE \_\_\_\_\_

DIRECTIONS: A number of statements which people have used to describe themselves are given below. Read each statement and then circle the appropriate number to the right of the statement to indicate how you generally feel.

There are no right or wrong answers.

Do not spend too much time on any one statement but give the answer which seems to describe how you generally feel.

	Almost never	Sometimes	Often	Almost always
21. I feel pleasant . . . . .	1	2	3	4
22. I tire quickly . . . . .	1	2	3	4
23. I feel like crying . . . . .	1	2	3	4
24. I wish I could be as happy as others seem to be . . . . .	1	2	3	4
25. I am losing out on things because I can't make up my mind soon enough . . . . .	1	2	3	4
26. I feel rested . . . . .	1	2	3	4
27. I am "calm, cool, and collected" . . . . .	1	2	3	4
28. I feel that difficulties are piling up so that I cannot overcome them . . . . .	1	2	3	4
29. I worry too much over something that really doesn't matter . . . . .	1	2	3	4
30. I am happy . . . . .	1	2	3	4
31. I am inclined to take things hard . . . . .	1	2	3	4
32. I lack self-confidence . . . . .	1	2	3	4
33. I feel secure . . . . .	1	2	3	4
34. I try to avoid facing a crises or difficulty . . . . .	1	2	3	4
35. I feel blue . . . . .	1	2	3	4
36. I am content . . . . .	1	2	3	4
37. Some unimportant thought runs through my mind and bothers me . . . . .	1	2	3	4
38. I take disappointments so keenly that I can't put them out of my mind . . . . .	1	2	3	4
39. I am a steady person . . . . .	1	2	3	4
40. I get in a state of tension or turmoil as I think over my recent concerns and interests . . . . .	1	2	3	4

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Elder Adult

Admin: Individual or group

Time: 50-60 minutes to administer; 15-20 minutes to score

Qualification: [C](#)

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### PAI® Scales and Subscales

The 344 PAI items constitute 22 nonoverlapping scales covering the constructs most relevant to a broad-based assessment of mental disorders: 4 validity scales, 11 clinical scales, 5 treatment scales, and 2 interpersonal scales. To facilitate interpretation and to cover the full range of complex clinical constructs, 10 scales contain conceptually derived subscales.

The PAI Clinical scales were developed to provide information about critical diagnostic features of 11 important clinical constructs. These 11 scales may be divided into three broad classes of disorders: those within the neurotic spectrum, those within the psychotic spectrum, and those associated with behavior disorder or impulse control problems.

The Treatment scales were developed to provide indicators of potential complications in treatment that would not necessarily be apparent from diagnostic information. These five scales include two indicators of potential for harm to self or others, two measures of the respondent's environmental circumstances, and one indicator of the respondent's motivation for treatment.

The Interpersonal scales were developed to provide an assessment of the respondent's interpersonal style along two dimensions: a warmly affiliative versus a cold rejecting style, and a dominating/controlling versus a meekly submissive style. These axes provide a useful way of conceptualizing many different mental disorders: persons at the extremes of these dimensions may present with a variety of disorders. A number of studies provide evidence that diagnostic groups differ on these dimensions.

The PAI includes a Borderline Features scale and an Antisocial Features scale. Both of these scales specifically assess character pathology. The Borderline Features scale is the only PAI scale that has four subscales, reflecting the factorial complexity of the construct. The Antisocial Features scale includes a total of three facets: one assessing antisocial behaviors, and the other two assessing antisocial traits.

## Rating Form

### WHAT ASSISTANCE DO YOU NEED?

*People with disabilities often need assistance. We would like to differentiate between personal care for physical disabilities and supervision for cognitive problems. First, focus on physical "hands on" assistance: This includes help with eating, grooming, bathing, dressing, management of a ventilator or other equipment, transfers etc. Keeping in mind these daily activities...*

1. How many hours in a typical 24-hour day do you have someone with you to provide physical assistance for personal care activities such as eating, bathing, dressing, toileting and mobility?

\_\_\_\_\_ hours paid assistance  
\_\_\_\_\_ hours unpaid (family, others)

*Now, focus on supervision for cognitive problems instead of physical assistance. This includes remembering, decision making, judgment, etc..*

2. How much time is someone with you in your home to assist you with activities that require remembering, decision making, or judgment?

- [1] \_\_\_\_\_ Someone else is always with me to observe or supervise.  
[2] \_\_\_\_\_ Someone else is always around, but they only check on me now and then.  
[3] \_\_\_\_\_ Sometimes I am left alone for an hour or two.  
[4] \_\_\_\_\_ Sometimes I am left alone for most of the day  
[5] \_\_\_\_\_ I have been left alone all day and all night, but someone checks in on me.  
[6] \_\_\_\_\_ I am left alone without anyone checking on me.

3. How much of the time is someone with you to help you with remembering, decision making, or judgment when you go away from your home?

- [1] \_\_\_\_\_ I am restricted from leaving, even with someone else.  
[2] \_\_\_\_\_ Someone is always with me to help with remembering, decision making or judgment when I go anywhere.  
[3] \_\_\_\_\_ I go to places on my own as long as they are familiar.  
[4] \_\_\_\_\_ I do not need help going anywhere.

*Now, I have a series of questions about your typical activities.*

### ARE YOU UP AND ABOUT REGULARLY?

4. On a typical day, how many hours are you out of bed? \_\_\_\_\_ hours  
5. In a typical week, how many days do you get out of your house and go somewhere? \_\_\_\_\_ days  
6. In the last year, how many nights have you spent away from your home (excluding hospitalizations?)  
[0] \_\_\_\_\_ none [1] \_\_\_\_\_ 1-2 [3] \_\_\_\_\_ 3-4 [5] \_\_\_\_\_ 5 or more

### HOW DO YOU SPEND YOUR TIME?

7. How many hours per week do you spend working in a job for which you get paid? hours \_\_\_\_\_  
(occupation: \_\_\_\_\_)  
8. How many hours per week do you spend in school working toward a degree or in an accredited technical training program (including hours in class and studying)? \_\_\_\_\_ Hours  
9. How many hours per week do you spend in active homemaking including parenting, housekeeping, and food preparation? \_\_\_\_\_ Hours

10. How many hours per week do you spend in home maintenance activities such as gardening, house repairs or home improvement? \_\_\_\_\_ Hours
11. How many hours per week do you spend in recreational activities such as sports, exercise, playing cards, or going to movies? Please do not include time spent watching TV or listening to the radio. \_\_\_\_\_ Hours

*WITH WHOM DO YOU SPEND TIME?*

12. How many people do you live with? \_\_\_\_\_
13. Is one of them your spouse or significant other? [1]\_\_\_\_ Yes [0]\_\_\_\_ No [9]\_\_\_\_ Not applicable (subject lives alone)
14. Of the people you live with how many are relatives? \_\_\_\_\_
15. How many business or organizational associates do you visit, phone, or write to at least once a month? \_\_\_\_\_ associates
16. How many friends (non-relatives contacted outside business or organizational settings) do you visit, phone, or write to at least once a month? \_\_\_\_\_ friends
17. With how many strangers have you initiated a conversation in the last month (for example, to ask information or place an order)?  
  
[0] \_\_\_\_ none [1]\_\_\_\_ 1-2 [3]\_\_\_\_ 3-5 [6]\_\_\_\_ 6 or more

*WHAT FINANCIAL RESOURCES DO YOU HAVE?*

18. Approximately what was the combined annual income, in the last year, of all family members in your household? (consider all sources including wages and earnings, disability benefits, pensions and retirement income, income from court settlements, investments and trust funds, child support and alimony, contributions from relatives, and any other source.)  
  
a. Less than 25,000 - If no ask e; if yes ask b  
b. Less than 20,000 - If no code 22500; if yes ask c  
c. Less than 15,000 - If no code 17500; if yes ask d  
d. Less than 10,000 - If no code 12500; if yes code 5000  
e. Less than 35,000 - If no ask f; if yes code 30000  
f. Less than 50,000 - If no ask g; if yes code 42500  
g. Less than 75,000 - If no code h; if yes code 62500  
h. 75,000 or more code 80000
19. Approximately how much did you pay last year for medical care expenses? (Consider any amounts paid by yourself or the family members in your household and not reimbursed by insurance or benefits.)  
  
"Would you say your unreimbursed medical expenses are...."  
  
a. Less than 1000 if "no" ask b if "yes" code 500.  
b. Less than 2500 if "no" ask c if "yes" code 1750.  
c. Less than 5000 if "no" ask d if "yes" code 3750.  
d. Less than 10000 if "no" code e if "yes" code 7500.  
e. 10000 or more code 15000

# M.I.N.I.

## MINI INTERNATIONAL NEUROPSYCHIATRIC INTERVIEW

English Version 6.0.0

DSM-IV

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### DISCLAIMER

Our aim is to assist in the assessment and tracking of patients with greater efficiency and accuracy. Before action is taken on any data collected and processed by this program, it should be reviewed and interpreted by a licensed clinician.

This program is not designed or intended to be used in the place of a full medical and psychiatric evaluation by a qualified licensed physician – psychiatrist. It is intended only as a tool to facilitate accurate data collection and processing of symptoms elicited by trained personnel.

**M.I.N.I. 6.0.0 (January 1, 2009)**

<b>Patient Name:</b> _____	<b>Patient Number:</b> _____
<b>Date of Birth:</b> _____	<b>Time Interview Began:</b> _____
<b>Interviewer's Name:</b> _____	<b>Time Interview Ended:</b> _____
<b>Date of Interview:</b> _____	<b>Total Time:</b> _____

	MODULES	TIME FRAME	MEETS CRITERIA	DSM-IV-TR	ICD-10	PRIMARY DIAGNOSIS
A	MAJOR DEPRESSIVE EPISODE	Current (2 weeks)	<input type="checkbox"/>	296.20-296.26 Single	F32.x	<input type="checkbox"/>
		Past	<input type="checkbox"/>	296.20-296.26 Single	F32.x	<input type="checkbox"/>
		Recurrent	<input type="checkbox"/>	296.30-296.36 Recurrent	F33.x	<input type="checkbox"/>
B	SUICIDALITY	Current (Past Month)	<input type="checkbox"/>			
		<input type="checkbox"/> Low <input type="checkbox"/> Moderate <input type="checkbox"/> High				
C	MANIC EPISODE	Current	<input type="checkbox"/>	296.00-296.06	F30.x-F31.9	<input type="checkbox"/>
		Past	<input type="checkbox"/>			
	HYPOMANIC EPISODE	Current	<input type="checkbox"/>	296.80-296.89	F31.8-F31.9/F34.0	<input type="checkbox"/>
		Past	<input type="checkbox"/>			
	BIPOLAR I DISORDER	Current	<input type="checkbox"/>	296.0x-296.6x	F30.x-F31.9	<input type="checkbox"/>
		Past	<input type="checkbox"/>	296.0x-296.6x	F30.x-F31.9	<input type="checkbox"/>
	BIPOLAR II DISORDER	Current	<input type="checkbox"/>	296.89	F31.8	<input type="checkbox"/>
		Past	<input type="checkbox"/>	296.89	F31.8	<input type="checkbox"/>
	BIPOLAR DISORDER NOS	Current	<input type="checkbox"/>	296.80	F31.9	<input type="checkbox"/>
		Past	<input type="checkbox"/>	296.80	F31.9	<input type="checkbox"/>
D	PANIC DISORDER	Current (Past Month)	<input type="checkbox"/>	300.01/300.21	F40.01-F41.0	<input type="checkbox"/>
		Lifetime	<input type="checkbox"/>			
E	AGORAPHOBIA	Current	<input type="checkbox"/>	300.22	F40.00	<input type="checkbox"/>
F	SOCIAL PHOBIA (Social Anxiety Disorder)	Current (Past Month)				
		Generalized	<input type="checkbox"/>	300.23	F40.1	<input type="checkbox"/>
		Non-Generalized	<input type="checkbox"/>	300.23	F40.1	<input type="checkbox"/>
G	OBSESSIVE-COMPULSIVE DISORDER	Current (Past Month)	<input type="checkbox"/>	300.3	F42.8	<input type="checkbox"/>
H	POSTTRAUMATIC STRESS DISORDER	Current (Past Month)	<input type="checkbox"/>	309.81	F43.1	<input type="checkbox"/>
I	ALCOHOL DEPENDENCE	Past 12 Months	<input type="checkbox"/>	303.9	F10.2x	<input type="checkbox"/>
	ALCOHOL ABUSE	Past 12 Months	<input type="checkbox"/>	305.00	F10.1	<input type="checkbox"/>
J	SUBSTANCE DEPENDENCE (Non-alcohol)	Past 12 Months	<input type="checkbox"/>	304.00-.90/305.20-.90	F11.1-F19.1	<input type="checkbox"/>
	SUBSTANCE ABUSE (Non-alcohol)	Past 12 Months	<input type="checkbox"/>	304.00-.90/305.20-.90	F11.1-F19.1	<input type="checkbox"/>
K	PSYCHOTIC DISORDERS	Lifetime	<input type="checkbox"/>	295.10-295.90/297.1/	F20.xx-F29	<input type="checkbox"/>
		Current	<input type="checkbox"/>	297.3/293.81/293.82/		
				293.89/298.8/298.9		
	MOOD DISORDER WITH	Lifetime	<input type="checkbox"/>	296.24/296.34/296.44	F32.3/F33.3/	<input type="checkbox"/>
	PSYCHOTIC FEATURES	Current	<input type="checkbox"/>	296.24/296.34/296.44	F30.2/F31.2/F31.5	<input type="checkbox"/>
					F31.8/F31.9/F39	<input type="checkbox"/>
L	ANOREXIA NERVOSA	Current (Past 3 Months)	<input type="checkbox"/>	307.1	F50.0	<input type="checkbox"/>
M	BULIMIA NERVOSA	Current (Past 3 Months)	<input type="checkbox"/>	307.51	F50.2	<input type="checkbox"/>
	ANOREXIA NERVOSA, BINGE EATING/PURGING TYPE	Current	<input type="checkbox"/>	307.1	F50.0	<input type="checkbox"/>
N	GENERALIZED ANXIETY DISORDER	Current (Past 6 Months)	<input type="checkbox"/>	300.02	F41.1	<input type="checkbox"/>
O	MEDICAL, ORGANIC, DRUG CAUSE RULED OUT		<input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> Uncertain			
P	ANTISOCIAL PERSONALITY DISORDER	Lifetime	<input type="checkbox"/>	301.7	F60.2	<input type="checkbox"/>

IDENTIFY THE PRIMARY DIAGNOSIS BY CHECKING THE APPROPRIATE CHECK BOX.

(Which problem troubles you the most or dominates the others or came first in the natural history?) \_\_\_\_\_



The translation from DSM-IV-TR to ICD-10 coding is not always exact. For more information on this topic see Schulte-Markwort. Crosswalks ICD-10/DSM-IV-TR. Hogrefe & Huber Publishers 2006.

## GENERAL INSTRUCTIONS

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The M.I.N.I. was designed as a brief structured interview for the major Axis I psychiatric disorders in DSM-IV and ICD-10. Validation and reliability studies have been done comparing the M.I.N.I. to the SCID-P for DSM-III-R and the CIDI (a structured interview developed by the World Health Organization). The results of these studies show that the M.I.N.I. has similar reliability and validity properties, but can be administered in a much shorter period of time (mean  $18.7 \pm 11.6$  minutes, median 15 minutes) than the above referenced instruments. It can be used by clinicians, after a brief training session. Lay interviewers require more extensive training.

### INTERVIEW:

In order to keep the interview as brief as possible, inform the patient that you will conduct a clinical interview that is more structured than usual, with very precise questions about psychological problems which require a yes or no answer.

### GENERAL FORMAT:

The M.I.N.I. is divided into **modules** identified by letters, each corresponding to a diagnostic category.

- At the beginning of each diagnostic module (except for psychotic disorders module), screening question(s) corresponding to the main criteria of the disorder are presented in a **gray box**.
- At the end of each module, diagnostic box(es) permit the clinician to indicate whether diagnostic criteria are met.

### CONVENTIONS:

*Sentences written in « normal font »* should be read exactly as written to the patient in order to standardize the assessment of diagnostic criteria.

*Sentences written in « CAPITALS »* should not be read to the patient. They are instructions for the interviewer to assist in the scoring of the diagnostic algorithms.

*Sentences written in « bold »* indicate the time frame being investigated. The interviewer should read them as often as necessary. Only symptoms occurring during the time frame indicated should be considered in scoring the responses.

*Answers with an arrow above them (➡)* indicate that one of the criteria necessary for the diagnosis(es) is not met. In this case, the interviewer should go to the end of the module, circle « **NO** » in all the diagnostic boxes and move to the next module.

When terms are separated by a *slash (/)* the interviewer should read only those symptoms known to be present in the patient (for example, question G6).

*Phrases in (parentheses)* are clinical examples of the symptom. These may be read to the patient to clarify the question.

### RATING INSTRUCTIONS:

All questions must be rated. The rating is done at the right of each question by circling either Yes or No. Clinical judgment by the rater should be used in coding the responses. Interviewers need to be sensitive to the diversity of cultural beliefs in their administration of questions and rating of responses. The rater should ask for examples when necessary, to ensure accurate coding. The patient should be encouraged to ask for clarification on any question that is not absolutely clear.

The clinician should be sure that each dimension of the question is taken into account by the patient (for example, time frame, frequency, severity, and/or alternatives).

Symptoms better accounted for by an organic cause or by the use of alcohol or drugs should not be coded positive in the M.I.N.I. The M.I.N.I. Plus has questions that investigate these issues.

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For any questions, suggestions, need for a training session or information about updates of the M.I.N.I., please contact:

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## A. MAJOR DEPRESSIVE EPISODE

(➡ MEANS : GO TO THE DIAGNOSTIC BOXES, CIRCLE **NO** IN ALL DIAGNOSTIC BOXES, AND MOVE TO THE NEXT MODULE)

A1	a	Were you <u>ever</u> depressed or down, most of the day, nearly every day, for two weeks?	NO	YES
IF NO, CODE NO TO <b>A1b</b> : IF <b>YES</b> ASK:				
	b	For the <u>past two weeks</u> , were you depressed or down, most of the day, nearly every day?	NO	YES
A2	a	Were you <u>ever</u> much less interested in most things or much less able to enjoy the things you used to enjoy most of the time, for two weeks?	NO	YES
IF NO, CODE NO TO <b>A2b</b> : IF <b>YES</b> ASK:				
	b	In the <u>past two weeks</u> , were you much less interested in most things or much less able to enjoy the things you used to enjoy, most of the time?	NO	YES
IS <b>A1a</b> OR <b>A2a</b> CODED <b>YES</b> ?			➡ NO	YES

A3 IF **A1b** OR **A2b** = **YES**: EXPLORE THE **CURRENT** AND THE MOST SYMPTOMATIC **PAST** EPISODE, OTHERWISE  
IF **A1b** AND **A2b** = **NO**: EXPLORE ONLY THE MOST SYMPTOMATIC **PAST** EPISODE

**Over that two week period, when you felt depressed or uninterested:**

		Past 2 Weeks		Past Episode	
a	Was your appetite decreased or increased nearly every day? Did your weight decrease or increase without trying intentionally (i.e., by $\pm 5\%$ of body weight or $\pm 8$ lbs. or $\pm 3.5$ kgs., for a 160 lb./70 kg. person in a month)? <small>IF YES TO EITHER, CODE YES.</small>	NO	YES	NO	YES
b	Did you have trouble sleeping nearly every night (difficulty falling asleep, waking up in the middle of the night, early morning wakening or sleeping excessively)?	NO	YES	NO	YES
c	Did you talk or move more slowly than normal or were you fidgety, restless or having trouble sitting still almost every day?	NO	YES	NO	YES
d	Did you feel tired or without energy almost every day?	NO	YES	NO	YES
e	Did you feel worthless or guilty almost every day?  <small>IF YES, ASK FOR EXAMPLES. THE EXAMPLES ARE CONSISTENT WITH A DELUSIONAL IDEA. Current Episode <input type="checkbox"/> No <input type="checkbox"/> Yes Past Episode <input type="checkbox"/> No <input type="checkbox"/> Yes</small>	NO	YES	NO	YES
f	Did you have difficulty concentrating or making decisions almost every day?	NO	YES	NO	YES
g	Did you repeatedly consider hurting yourself, feel suicidal, or wish that you were dead? Did you attempt suicide or plan a suicide? <small>IF YES TO EITHER, CODE YES.</small>	NO	YES	NO	YES
A4	Did these symptoms cause significant problems at home, at work, socially, at school or in some other important way?	NO	YES	NO	YES
A5	In between 2 episodes of depression, did you ever have an interval of at least 2 months, without any significant depression or any significant loss of interest?			NO	YES



ARE **5** OR MORE ANSWERS (**A1-A3**) CODED **YES** AND IS **A4** CODED YES FOR THAT TIME FRAME?

SPECIFY IF THE EPISODE IS CURRENT AND / OR PAST.

IF **A5** IS CODED **YES**, CODE **YES** FOR RECURRENT.

NO	YES
<b>MAJOR DEPRESSIVE EPISODE</b>	
CURRENT	<input type="checkbox"/>
PAST	<input type="checkbox"/>
RECURRENT	<input type="checkbox"/>

A6 a How many episodes of depression did you have in your lifetime? \_\_\_\_\_

Between each episode there must be at least 2 months without any significant depression.

## B. SUICIDALITY

Points

### In the past month did you:

B1	Suffer any accident? IF NO TO B1, SKIP TO B2; IF YES, ASK B1a:	NO	YES	0
B1a	Plan or intend to hurt yourself in that accident either actively or passively (e.g. not avoiding a risk)? IF NO TO B1a, SKIP TO B2: IF YES, ASK B1b:	NO	YES	0
B1b	Intend to die as a result of this accident?	NO	YES	0
B2	Feel hopeless?	NO	YES	1
B3	Think that you would be better off dead or wish you were dead?	NO	YES	1
B4	Want to harm yourself or to hurt or to injure yourself or have mental images of harming yourself?	NO	YES	2
B5	Think about suicide? IF NO TO B5, SKIP TO B7. OTHERWISE ASK:	NO	YES	6

Frequency

Intensity

Occasionally	<input type="checkbox"/>	Mild	<input type="checkbox"/>
Often	<input type="checkbox"/>	Moderate	<input type="checkbox"/>
Very often	<input type="checkbox"/>	Severe	<input type="checkbox"/>

	Can you state that you will not act on these impulses during this treatment program?	NO	YES	
B6	Feel unable to control these impulses?	NO	YES	8
B7	Have a suicide plan?	NO	YES	8
B8	Take any active steps to prepare to injure yourself or to prepare for a suicide attempt in which you expected or intended to die?	NO	YES	9
B9	Deliberately injure yourself without intending to kill yourself?	NO	YES	4
B10	Attempt suicide? IF NO SKIP TO B11: Hope to be rescued / survive <input type="checkbox"/> Expected / intended to die <input type="checkbox"/>	NO	YES	9

### In your lifetime:

B11	Did you ever make a suicide attempt?	NO	YES	4
-----	--------------------------------------	----	-----	---

IS AT LEAST **1** OF THE ABOVE (EXCEPT B1) CODED **YES**?

IF YES, ADD THE TOTAL POINTS FOR THE ANSWERS (B1-B11)  
CHECKED 'YES' AND SPECIFY THE SUICIDALITY SCORE AS  
INDICATED IN THE DIAGNOSTIC BOX:

MAKE ANY ADDITIONAL COMMENTS ABOUT YOUR ASSESSMENT  
OF THIS PATIENT'S CURRENT AND NEAR FUTURE SUICIDALITY IN  
THE SPACE BELOW:

**NO**

**YES**

***SUICIDALITY  
CURRENT***

1-8 points	Low	<input type="checkbox"/>
9-16 points	Moderate	<input type="checkbox"/>
≥ 17 points	High	<input type="checkbox"/>

## C. MANIC AND HYPOMANIC EPISODES

(➡ MEANS : GO TO THE DIAGNOSTIC BOXES, CIRCLE NO IN MANIC AND HYPOMANIC DIAGNOSTIC BOXES, AND MOVE TO NEXT MODULE)

Do you have any family history of manic depressive illness or bipolar disorder, or any family member who had mood swings treated with a medication like lithium, sodium valproate (Depakote) or lamotrigine (Lamictal)?

NO

YES

THIS QUESTION IS NOT A CRITERION FOR BIPOLAR DISORDER, BUT IS ASKED TO INCREASE THE CLINICIAN'S VIGILANCE ABOUT THE RISK FOR BIPOLAR DISORDER .

IF YES, PLEASE SPECIFY WHO: \_\_\_\_\_

- C1 a Have you **ever** had a period of time when you were feeling 'up' or 'high' or 'hyper' or so full of energy or full of yourself that you got into trouble, - or that other people thought you were not your usual self? (Do not consider times when you were intoxicated on drugs or alcohol.)

NO

YES

IF PATIENT IS PUZZLED OR UNCLEAR ABOUT WHAT YOU MEAN

BY 'UP' OR 'HIGH' OR 'HYPER', CLARIFY AS FOLLOWS: By 'up' or 'high' or 'hyper'

I mean: having elated mood; increased energy; needing less sleep; having rapid thoughts; being full of ideas; having an increase in productivity, motivation, creativity, or impulsive behavior; phoning or working excessively or spending more money.

IF NO, CODE NO TO **C1b**: IF YES ASK:

- b Are you currently feeling 'up' or 'high' or 'hyper' or full of energy?

NO

YES

- C2 a Have you **ever** been persistently irritable, for several days, so that you had arguments or verbal or physical fights, or shouted at people outside your family? Have you or others noticed that you have been more irritable or over reacted, compared to other people, even in situations that you felt were justified?

NO

YES

IF NO, CODE NO TO **C2b**: IF YES ASK:

- b Are you currently feeling persistently irritable?

NO

YES

IS **C1a** OR **C2a** CODED YES?

➡

NO

YES

- C3 IF **C1b** OR **C2b** = YES: EXPLORE THE **CURRENT** AND THE MOST SYMPTOMATIC **PAST** EPISODE, OTHERWISE  
IF **C1b** AND **C2b** = NO: EXPLORE ONLY THE MOST SYMPTOMATIC **PAST** EPISODE

**During the times when you felt high, full of energy, or irritable did you:**

	<u>Current Episode</u>		<u>Past Episode</u>	
a Feel that you could do things others couldn't do, or that you were an especially important person? If YES, ASK FOR EXAMPLES. THE EXAMPLES ARE CONSISTENT WITH A DELUSIONAL IDEA. Current Episode <input type="checkbox"/> No <input type="checkbox"/> Yes Past Episode <input type="checkbox"/> No <input type="checkbox"/> Yes	NO	YES	NO	YES
b Need less sleep (for example, feel rested after only a few hours sleep)?	NO	YES	NO	YES
c Talk too much without stopping, or so fast that people had difficulty understanding?	NO	YES	NO	YES
d Have racing thoughts?	NO	YES	NO	YES

		<u>Current Episode</u>		<u>Past Episode</u>	
e	Become easily distracted so that any little interruption could distract you?	NO	YES	NO	YES
f	Have a significant increase in your activity or drive, at work, at school, socially or sexually or did you become physically or mentally restless?	NO	YES	NO	YES
g	Want so much to engage in pleasurable activities that you ignored the risks or consequences (for example, spending sprees, reckless driving, or sexual indiscretions)?	NO	YES	NO	YES
C3	SUMMARY: WHEN RATING CURRENT EPISODE: IF C1b IS NO, ARE 4 OR MORE C3 ANSWERS CODED YES? IF C1b IS YES, ARE 3 OR MORE C3 ANSWERS CODED YES?  WHEN RATING PAST EPISODE: IF C1a IS NO, ARE 4 OR MORE C3 ANSWERS CODED YES? IF C1a IS YES, ARE 3 OR MORE C3 ANSWERS CODED YES?  CODE YES ONLY IF THE ABOVE 3 OR 4 SYMPTOMS OCCURRED DURING THE SAME TIME PERIOD.  RULE: ELATION/EXPANSIVENESS REQUIRES ONLY THREE C3 SYMPTOMS, WHILE IRRITABLE MOOD ALONE REQUIRES 4 OF THE C3 SYMPTOMS.	NO	YES	NO	YES
C4	What is the longest time these symptoms lasted? a) 3 days or less b) 4 to 6 days c) 7 days or more		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
C5	Were you hospitalized for these problems?  IF YES, STOP HERE AND CIRCLE YES IN MANIC EPISODE FOR THAT TIME FRAME.	NO	YES	NO	YES
C6	Did these symptoms cause significant problems at home, at work, socially in your relationships with others, at school or in some other important way?	NO	YES	NO	YES

ARE **C3** SUMMARY AND **C5** AND **C6** CODED **YES** AND EITHER **C4a** or **b** or **c** CODED **YES**?

OR

ARE **C3** SUMMARY AND **C4c** AND **C6** CODED **YES** AND IS **C5** CODED **NO**?

SPECIFY IF THE EPISODE IS CURRENT AND / OR PAST.

ARE **C3** SUMMARY AND **C5** AND **C6** CODED **NO** AND EITHER **C4b** OR **C4c** CODED **YES**?

OR

ARE **C3** SUMMARY AND **C4b** AND **C6** CODED **YES** AND IS **C5** CODED **NO**?

SPECIFY IF THE EPISODE IS CURRENT AND / OR PAST.

NO	YES
<b>MANIC EPISODE</b>	
CURRENT	<input type="checkbox"/>
PAST	<input type="checkbox"/>

NO	YES
<b>HYPOMANIC EPISODE</b>	
CURRENT	<input type="checkbox"/>
PAST	<input type="checkbox"/>

ARE **C3** SUMMARY AND **C4a** CODED **YES** AND IS **C5** CODED **NO**?

**NO**

**YES**

***HYPOMANIC SYMPTOMS***

SPECIFY IF THE EPISODE IS CURRENT AND / OR PAST.

CURRENT

☐

PAST

☐

C7

a) IF MANIC EPISODE IS POSITIVE FOR EITHER CURRENT OR PAST ASK:

Did you have 2 or more manic episodes (**C4c**) in your lifetime (including the current episode if present)? NO YES

b) IF HYPOMANIC EPISODE IS POSITIVE FOR EITHER CURRENT OR PAST ASK:

Did you have 2 or more hypomanic EPISODES (**C4b**) in your lifetime (including the current episode)? NO YES

c) IF PAST "HYPOMANIC SYMPTOMS" IS CODED POSITIVE ASK:

Did you have 2 or more episodes of hypomanic SYMPTOMS (**C4a**) in your lifetime (including the current episode if present)? NO YES

## D. PANIC DISORDER

(➡ MEANS : CIRCLE NO IN D5, D6 AND D7 AND SKIP TO E1)

D1	<p>a Have you, on more than one occasion, had spells or attacks when you <b>suddenly</b> felt anxious, frightened, uncomfortable or uneasy, even in situations where most people would not feel that way?</p> <p>b Did the spells surge to a peak within 10 minutes of starting?</p>	➡ NO	YES
		➡ NO	YES
D2	At any time in the past, did any of those spells or attacks come on unexpectedly or occur in an unpredictable or unprovoked manner?	➡ NO	YES
D3	Have you ever had one such attack followed by a month or more of persistent concern about having another attack, or worries about the consequences of the attack - or did you make a significant change in your behavior because of the attacks (e.g., shopping only with a companion, not wanting to leave your house, visiting the emergency room repeatedly, or seeing your doctor more frequently because of the symptoms)?	NO	YES
D4	<b>During the worst attack that you can remember:</b>		
a	Did you have skipping, racing or pounding of your heart?	NO	YES
b	Did you have sweating or clammy hands?	NO	YES
c	Were you trembling or shaking?	NO	YES
d	Did you have shortness of breath or difficulty breathing?	NO	YES
e	Did you have a choking sensation or a lump in your throat?	NO	YES
f	Did you have chest pain, pressure or discomfort?	NO	YES
g	Did you have nausea, stomach problems or sudden diarrhea?	NO	YES
h	Did you feel dizzy, unsteady, lightheaded or faint?	NO	YES
i	Did things around you feel strange, unreal, detached or unfamiliar, or did you feel outside of or detached from part or all of your body?	NO	YES
j	Did you fear that you were losing control or going crazy?	NO	YES
k	Did you fear that you were dying?	NO	YES
l	Did you have tingling or numbness in parts of your body?	NO	YES
m	Did you have hot flushes or chills?	NO	YES
D5	ARE BOTH <b>D3</b> , AND <b>4</b> OR MORE <b>D4</b> ANSWERS, CODED <b>YES</b> ? IF YES TO D5, SKIP TO D7.	NO	YES
			<i>PANIC DISORDER LIFETIME</i>
D6	IF <b>D5</b> = <b>NO</b> , ARE ANY D4 ANSWERS CODED <b>YES</b> ? THEN SKIP TO <b>E1</b> .	NO	YES
			<i>LIMITED SYMPTOM ATTACKS LIFETIME</i>

D7	In the past month, did you have such attacks repeatedly (2 or more), and did you have persistent concern about having another attack, or worry about the consequences of the attacks, or did you change your behavior in any way because of the attacks?	NO	YES <i>PANIC DISORDER CURRENT</i>
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## E. AGORAPHOBIA

E1	Do you feel anxious or uneasy in places or situations where help might not be available or escape might be difficult, like being in a crowd, standing in a line (queue), when you are alone away from home or alone at home, or when crossing a bridge, or traveling in a bus, train or car or where you might have a panic attack or the panic-like symptoms we just spoke about?	NO	YES
----	--	----	-----

IF **E1** = **NO**, CIRCLE **NO** IN **E2**.

E2	Do you fear these situations so much that you avoid them, or suffer through them, or need a companion to face them?	NO	YES <i>AGORAPHOBIA CURRENT</i>
----	---	----	---------------------------------------

IS **E2** (CURRENT AGORAPHOBIA) CODED **YES**

and

IS **D7** (CURRENT PANIC DISORDER) CODED **YES**?

NO	YES
----	-----

**PANIC DISORDER  
with Agoraphobia  
CURRENT**

IS **E2** (CURRENT AGORAPHOBIA) CODED **NO**

and

IS **D7** (CURRENT PANIC DISORDER) CODED **YES**?

NO	YES
----	-----

**PANIC DISORDER  
without Agoraphobia  
CURRENT**

IS **E2** (CURRENT AGORAPHOBIA) CODED **YES**

and

IS **D5** (PANIC DISORDER LIFETIME) CODED **NO**?

NO	YES
----	-----

**AGORAPHOBIA, CURRENT  
without history of  
Panic Disorder**



## F. SOCIAL PHOBIA (Social Anxiety Disorder)

**(➡ MEANS : GO TO THE DIAGNOSTIC BOX, CIRCLE NO AND MOVE TO THE NEXT MODULE)**

F1	In the past month, did you have persistent fear and significant anxiety at being watched, being the focus of attention, or of being humiliated or embarrassed? This includes things like speaking in public, eating in public or with others, writing while someone watches, or being in social situations.	➡ NO      YES
F2	Is this social fear excessive or unreasonable and does it almost always make you anxious?	➡ NO      YES
F3	Do you fear these social situations so much that you avoid them or suffer through them most of the time?	➡ NO      YES
F4	Do these social fears disrupt your normal work, school or social functioning or cause you significant distress?	

SUBTYPES

Do you fear and avoid 4 or more social situations?

If YES                  Generalized social phobia (social anxiety disorder)

If NO                    Non-generalized social phobia (social anxiety disorder)

EXAMPLES OF SUCH SOCIAL SITUATIONS TYPICALLY INCLUDE

- INITIATING OR MAINTAINING A CONVERSATION,
- PARTICIPATING IN SMALL GROUPS,
- DATING,
- SPEAKING TO AUTHORITY FIGURES,
- ATTENDING PARTIES,
- PUBLIC SPEAKING,
- EATING IN FRONT OF OTHERS,
- URINATING IN A PUBLIC WASHROOM, ETC.

NOTE TO INTERVIEWER: PLEASE ASSESS WHETHER THE SUBJECT’S FEARS ARE RESTRICTED TO NON-GENERALIZED (“ONLY 1 OR SEVERAL”) SOCIAL SITUATIONS OR EXTEND TO GENERALIZED (“MOST”) SOCIAL SITUATIONS. “MOST” SOCIAL SITUATIONS IS USUALLY OPERATIONALIZED TO MEAN 4 OR MORE SOCIAL SITUATIONS, ALTHOUGH THE DSM-IV DOES NOT EXPLICITLY STATE THIS.

**NO**
**YES**

***SOCIAL PHOBIA***  
*(Social Anxiety Disorder)*  
**CURRENT**

GENERALIZED
☐

NON-GENERALIZED
☐

## G. OBSESSIVE-COMPULSIVE DISORDER

(➡ MEANS: GO TO THE DIAGNOSTIC BOX, CIRCLE NO AND MOVE TO THE NEXT MODULE)

G1	In the past month, have you been bothered by recurrent thoughts, impulses, or images that were unwanted, distasteful, inappropriate, intrusive, or distressing? - (For example, the idea that you were dirty, contaminated or had germs, <b>or</b> fear of contaminating others, <b>or</b> fear of harming someone even though it disturbs or distresses you, or fear you would act on some impulse, <b>or</b> fear or superstitions that you would be responsible for things going wrong, <b>or</b> obsessions with sexual thoughts, images or impulses, <b>or</b> hoarding, collecting, <b>or</b> religious obsessions.)	NO	YES
		↓	
		SKIP TO G4	

(DO NOT INCLUDE SIMPLY EXCESSIVE WORRIES ABOUT REAL LIFE PROBLEMS. DO NOT INCLUDE OBSESSIONS DIRECTLY RELATED TO EATING DISORDERS, SEXUAL DEVIATIONS, PATHOLOGICAL GAMBLING, OR ALCOHOL OR DRUG ABUSE BECAUSE THE PATIENT MAY DERIVE PLEASURE FROM THE ACTIVITY AND MAY WANT TO RESIST IT ONLY BECAUSE OF ITS NEGATIVE CONSEQUENCES.)

G2	Did they keep coming back into your mind even when you tried to ignore or get rid of them?	NO	YES
		↓	
		SKIP TO G4	

G3	Do you think that these obsessions are the product of your own mind and that they are not imposed from the outside?	NO	YES
			obsessions

G4	In the past month, did you do something repeatedly without being able to resist doing it, like washing or cleaning excessively, counting or checking things over and over, or repeating, collecting, arranging things, or other superstitious rituals?	NO	YES
			compulsions

IS G3 OR G4 CODED YES?

➡  
NO      YES

G5	At any point, did you recognize that either these obsessive thoughts or these compulsive behaviors were excessive or unreasonable?	NO	YES
		➡	

G6	In the past month, did these obsessive thoughts and/or compulsive behaviors significantly interfere with your normal routine, your work or school, your usual social activities, or relationships, or did they take more than one hour a day?	NO	YES
----	---	----	-----

<b>NO</b>	<b>YES</b>
 <b><i>O.C.D. CURRENT</i></b> 	

## H. POSTTRAUMATIC STRESS DISORDER

(➡ MEANS : GO TO THE DIAGNOSTIC BOX, CIRCLE NO, AND MOVE TO THE NEXT MODULE)

H1	Have you ever experienced or witnessed or had to deal with an extremely traumatic event that included actual or threatened death or serious injury to you or someone else?	➡ NO	YES
<p>EXAMPLES OF TRAUMATIC EVENTS INCLUDE: SERIOUS ACCIDENTS, SEXUAL OR PHYSICAL ASSAULT, A TERRORIST ATTACK, BEING HELD HOSTAGE, KIDNAPPING, FIRE, DISCOVERING A BODY, WAR, OR NATURAL DISASTER, WITNESSING THE VIOLENT OR SUDDEN DEATH OF SOMEONE CLOSE TO YOU, OR A LIFE THREATENING ILLNESS.</p>			
H2	Did you respond with intense fear, helplessness or horror?	➡ NO	YES
H3	During the past month, have you re-experienced the event in a distressing way (such as in dreams, intense recollections, flashbacks or physical reactions) or did you have intense distress when you were reminded about the event or exposed to a similar event?	➡ NO	YES

**H4 In the past month:**

- |   |   |         |     |
|---|---|---------|-----|
| a   | Have you avoided thinking about or talking about the event ?                                  | NO      | YES |
| b   | Have you avoided activities, places or people that remind you of the event?                   | NO      | YES |
| c   | Have you had trouble recalling some important part of what happened?                          | NO      | YES |
| d   | Have you become much less interested in hobbies or social activities?                         | NO      | YES |
| e   | Have you felt detached or estranged from others?  | NO      | YES |
| f   | Have you noticed that your feelings are numbed?   | NO      | YES |
| g   | Have you felt that your life will be shortened or that you will die sooner than other people? | NO      | YES |
| ARE <b>3</b> OR MORE <b>H4</b> ANSWERS CODED <b>YES</b> ? |   | ➡<br>NO | YES |

**H5 In the past month:**

- |   |   |         |     |
|---|---|---------|-----|
| a   | Have you had difficulty sleeping?                                 | NO      | YES |
| b   | Were you especially irritable or did you have outbursts of anger? | NO      | YES |
| c   | Have you had difficulty concentrating?                            | NO      | YES |
| d   | Were you nervous or constantly on your guard?                     | NO      | YES |
| e   | Were you easily startled?   | NO      | YES |
| ARE <b>2</b> OR MORE <b>H5</b> ANSWERS CODED <b>YES</b> ? |   | ➡<br>NO | YES |

H6 During the past month, have these problems significantly interfered with your work, school or social activities, or caused significant distress?

<b>NO</b>	<b>YES</b>
<p><b>POSTTRAUMATIC STRESS DISORDER CURRENT</b></p>	

## I. ALCOHOL DEPENDENCE / ABUSE

(➡ MEANS: GO TO DIAGNOSTIC BOXES, CIRCLE NO IN BOTH AND MOVE TO THE NEXT MODULE)

I1	<b>In the past 12 months</b> , have you had 3 or more alcoholic drinks, - within a 3 hour period, - on 3 or more occasions?	➡ NO	YES
----	---	---------	-----

I2	<b>In the past 12 months:</b>		
	a Did you need to drink a lot more in order to get the same effect that you got when you first started drinking or did you get much less effect with continued use of the same amount?	NO	YES
	b When you cut down on drinking did your hands shake, did you sweat or feel agitated? Did you drink to avoid these symptoms (for example, "the shakes", sweating or agitation) or to avoid being hungover? <small>IF YES TO ANY, CODE YES.</small>	NO	YES
	c During the times when you drank alcohol, did you end up drinking more than you planned when you started?	NO	YES
	d Have you tried to reduce or stop drinking alcohol but failed?	NO	YES
	e On the days that you drank, did you spend substantial time in obtaining alcohol, drinking, or in recovering from the effects of alcohol?	NO	YES
	f Did you spend less time working, enjoying hobbies, or being with others because of your drinking?	NO	YES
	g If your drinking caused you health or mental problems, did you still keep on drinking?	NO	YES

ARE **3** OR MORE **I2** ANSWERS CODED **YES**?

**\*** IF YES, SKIP I3 QUESTIONS AND GO TO NEXT MODULE. "DEPENDENCE PREEMPTS ABUSE" IN DSM IV TR.

NO	YES*
<b>ALCOHOL DEPENDENCE CURRENT</b>	

I3	<b>In the past 12 months:</b>		
	a Have you been intoxicated, high, or hungover more than once when you had other responsibilities at school, at work, or at home? Did this cause any problems? <small>(CODE YES ONLY IF THIS CAUSED PROBLEMS.)</small>	NO	YES
	b Were you intoxicated more than once in any situation where you were physically at risk, for example, driving a car, riding a motorbike, using machinery, boating, etc.?	NO	YES
	c Did you have legal problems more than once because of your drinking, for example, an arrest or disorderly conduct?	NO	YES
	d If your drinking caused problems with your family or other people, did you still keep on drinking?	NO	YES

ARE **1** OR MORE **13** ANSWERS CODED **YES**?

**NO**

**YES**

***ALCOHOL ABUSE  
CURRENT***

## J. SUBSTANCE DEPENDENCE / ABUSE (NON-ALCOHOL)

(➔ MEANS : GO TO THE DIAGNOSTIC BOXES, CIRCLE NO IN ALL DIAGNOSTIC BOXES, AND MOVE TO THE NEXT MODULE)

Now I am going to show you / read to you a list of street drugs or medicines.

- |    |   |   |         |     |
|----|---|---|---------|-----|
| J1 | a | In the past 12 months, did you take any of these drugs more than once, to get high, to feel elated, to get "a buzz" or to change your mood? | ➔<br>NO | YES |
|----|---|---|---------|-----|

CIRCLE EACH DRUG TAKEN:

**Stimulants:** amphetamines, "speed", crystal meth, "crank", "rush", Dexedrine, Ritalin, diet pills.

**Cocaine:** snorting, IV, freebase, crack, "speedball".

**Narcotics:** heroin, morphine, Dilaudid, opium, Demerol, methadone, Darvon, codeine, Percodan, Vicoden, OxyContin.

**Hallucinogens:** LSD ("acid"), mescaline, peyote, psilocybin, STP, "mushrooms", "ecstasy", MDA, MDMA.

**Phencyclidine:** PCP ("Angel Dust", "PeaCe Pill", "Tranq", "Hog"), or ketamine ("special K").

**Inhalants:** "glue", ethyl chloride, "rush", nitrous oxide ("laughing gas"), amyl or butyl nitrate ("poppers").

**Cannabis:** marijuana, hashish ("hash"), THC, "pot", "grass", "weed", "reefer".

**Tranquilizers:** Quaalude, Seconal ("reds"), Valium, Xanax, Librium, Ativan, Dalmane, Halcion, barbiturates, Miltown, GHB, Roofinol, "Roofies".

**Miscellaneous:** steroids, nonprescription sleep or diet pills. Cough Medicine? Any others?

SPECIFY THE MOST USED DRUG(S): \_\_\_\_\_

WHICH DRUG(S) CAUSE THE BIGGEST PROBLEMS?: \_\_\_\_\_

FIRST EXPLORE THE DRUG CAUSING THE BIGGEST PROBLEMS AND MOST LIKELY TO MEET DEPENDENCE / ABUSE CRITERIA.

IF MEETS CRITERIA FOR ABUSE OR DEPENDENCE, SKIP TO THE NEXT MODULE. OTHERWISE, EXPLORE THE NEXT MOST PROBLEMATIC DRUG.

J2 **Considering your use of (NAME THE DRUG / DRUG CLASS SELECTED), in the past 12 months:**

- |                             |  |    |     |
|-----------------------------|--|----|-----|
| a                           | Have you found that you needed to use much more (NAME OF DRUG / DRUG CLASS SELECTED) to get the same effect that you did when you first started taking it?   | NO | YES |
| b                           | When you reduced or stopped using (NAME OF DRUG / DRUG CLASS SELECTED), did you have withdrawal symptoms (aches, shaking, fever, weakness, diarrhea, nausea, sweating, heart pounding, difficulty sleeping, or feeling agitated, anxious, irritable, or depressed)? Did you use any drug(s) to keep yourself from getting sick (withdrawal symptoms) or so that you would feel better? | NO | YES |
| IF YES TO EITHER, CODE YES. |  |    |     |
| c                           | Have you often found that when you used (NAME OF DRUG / DRUG CLASS SELECTED), you ended up taking more than you thought you would?   | NO | YES |
| d                           | Have you tried to reduce or stop taking (NAME OF DRUG / DRUG CLASS SELECTED) but failed?   | NO | YES |
| e                           | On the days that you used (NAME OF DRUG / DRUG CLASS SELECTED), did you spend substantial time (>2 HOURS), obtaining, using or in recovering from the drug, or thinking about the drug?  | NO | YES |
| f                           | Did you spend less time working, enjoying hobbies, or being with family or friends because of your drug use?   | NO | YES |
| g                           | If (NAME OF DRUG / DRUG CLASS SELECTED) caused you health or mental problems, did you still keep on using it?  | NO | YES |

ARE **3** OR MORE **J2** ANSWERS CODED **YES**?

SPECIFY DRUG(S): \_\_\_\_\_

**\*** IF YES, SKIP J3 QUESTIONS, MOVE TO NEXT DISORDER.  
“DEPENDENCE PREEMPTS ABUSE” IN DSM IV TR.

**NO**

**YES \***

***SUBSTANCE DEPENDENCE  
CURRENT***

**Considering your use of (NAME THE DRUG CLASS SELECTED), in the past 12 months:**

- J3 a Have you been intoxicated, high, or hungover from (NAME OF DRUG / DRUG CLASS SELECTED) more than once, when you had other responsibilities at school, at work, or at home? Did this cause any problem?

**NO**

**YES**

(CODE **YES** ONLY IF THIS CAUSED PROBLEMS.)

- b Have you been high or intoxicated from (NAME OF DRUG / DRUG CLASS SELECTED) more than once in any situation where you were physically at risk (for example, driving a car, riding a motorbike, using machinery, boating, etc.)?

**NO**

**YES**

- c Did you have legal problems more than once because of your drug use, for example, an arrest or disorderly conduct?

**NO**

**YES**

- d If (NAME OF DRUG / DRUG CLASS SELECTED) caused problems with your family or other people, did you still keep on using it?

**NO**

**YES**

ARE **1** OR MORE **J3** ANSWERS CODED **YES**?

SPECIFY DRUG(S): \_\_\_\_\_

**NO**

**YES**

***SUBSTANCE ABUSE  
CURRENT***

## K. PSYCHOTIC DISORDERS AND MOOD DISORDER WITH PSYCHOTIC FEATURES

ASK FOR AN EXAMPLE OF EACH QUESTION ANSWERED POSITIVELY. CODE **YES** ONLY IF THE EXAMPLES CLEARLY SHOW A DISTORTION OF THOUGHT OR OF PERCEPTION OR IF THEY ARE NOT CULTURALLY APPROPRIATE. BEFORE CODING, INVESTIGATE WHETHER DELUSIONS QUALIFY AS "BIZARRE".

DELUSIONS ARE "BIZARRE" IF: CLEARLY IMPLAUSIBLE, ABSURD, NOT UNDERSTANDABLE, AND CANNOT DERIVE FROM ORDINARY LIFE EXPERIENCE.

HALLUCINATIONS ARE SCORED "BIZARRE" IF: A VOICE COMMENTS ON THE PERSON'S THOUGHTS OR BEHAVIOR, OR WHEN TWO OR MORE VOICES ARE CONVERSING WITH EACH OTHER.

THE PURPOSE OF THIS MODULE IS TO EXCLUDE PATIENTS WITH PSYCHOTIC DISORDERS. THIS MODULE NEEDS EXPERIENCE.

Now I am going to ask you about unusual experiences that some people have.			BIZARRE
K1	a	Have you ever believed that people were spying on you, or that someone was plotting against you, or trying to hurt you? <b>NOTE:</b> ASK FOR EXAMPLES TO RULE OUT ACTUAL STALKING.	NO YES YES
	b	<b>IF YES OR YES BIZARRE:</b> do you currently believe these things?	NO YES YES ↳K6
K2	a	Have you ever believed that someone was reading your mind or could hear your thoughts, or that you could actually read someone's mind or hear what another person was thinking?	NO YES YES
	b	<b>IF YES OR YES BIZARRE:</b> do you currently believe these things?	NO YES YES ↳K6
K3	a	Have you ever believed that someone or some force outside of yourself put thoughts in your mind that were not your own, or made you act in a way that was not your usual self? Have you ever felt that you were possessed? <b>CLINICIAN:</b> ASK FOR EXAMPLES AND DISCOUNT ANY THAT ARE NOT PSYCHOTIC.	NO YES YES
	b	<b>IF YES OR YES BIZARRE:</b> do you currently believe these things?	NO YES YES ↳K6
K4	a	Have you ever believed that you were being sent special messages through the TV, radio, newspapers, books or magazines or that a person you did not personally know was particularly interested in you?	NO YES YES
	b	<b>IF YES OR YES BIZARRE:</b> do you currently believe these things?	NO YES YES ↳K6
K5	a	Have your relatives or friends ever considered any of your beliefs odd or unusual? <b>INTERVIEWER:</b> ASK FOR EXAMPLES. ONLY CODE <b>YES</b> IF THE EXAMPLES ARE <b>CLEARLY</b> DELUSIONAL IDEAS NOT EXPLORED IN QUESTIONS K1 TO K4, FOR EXAMPLE, SOMATIC OR RELIGIOUS DELUSIONS OR DELUSIONS OF GRANDIOSITY, JEALOUSY, GUILT, RUIN OR DESTITUTION, ETC.	NO YES YES
	b	<b>IF YES OR YES BIZARRE:</b> do they currently consider your beliefs strange?	NO YES YES
K6	a	Have you ever heard things other people couldn't hear, such as voices?  <b>IF YES TO VOICE HALLUCINATION:</b> Was the voice commenting on your thoughts or behavior or did you hear two or more voices talking to each other?	NO YES NO YES
	b	<b>IF YES OR YES BIZARRE TO K6a:</b> have you heard sounds / voices in the past month?  <b>IF YES TO VOICE HALLUCINATION:</b> Was the voice commenting on your thoughts or behavior or did you hear two or more voices talking to each other?	NO YES NO YES ↳K8b



K7 a Have you ever had visions when you were awake or have you ever seen things other people couldn't see? NO YES

CLINICIAN: CHECK TO SEE IF THESE ARE CULTURALLY INAPPROPRIATE.

b IF YES: have you seen these things in the past month? NO YES

### CLINICIAN'S JUDGMENT

K8 b IS THE PATIENT CURRENTLY EXHIBITING INCOHERENCE, DISORGANIZED SPEECH, OR MARKED LOOSENING OF ASSOCIATIONS? NO YES

K9 b IS THE PATIENT CURRENTLY EXHIBITING DISORGANIZED OR CATATONIC BEHAVIOR? NO YES

K10 b ARE NEGATIVE SYMPTOMS OF SCHIZOPHRENIA, E.G. SIGNIFICANT AFFECTIVE FLATTENING, POVERTY OF SPEECH (ALOGIA) OR AN INABILITY TO INITIATE OR PERSIST IN GOAL-DIRECTED ACTIVITIES (AVOLITION), PROMINENT DURING THE INTERVIEW? NO YES

K11 a ARE 1 OR MORE « a » QUESTIONS FROM K1a TO K7a CODED YES OR YES BIZARRE AND IS EITHER:

MAJOR DEPRESSIVE EPISODE, (CURRENT, RECURRENT OR PAST)

OR

MANIC OR HYPOMANIC EPISODE, (CURRENT OR PAST) CODED YES?

NO YES  
↳ K13

IF NO TO K11 a, CIRCLE NO IN BOTH 'MOOD DISORDER WITH PSYCHOTIC FEATURES' DIAGNOSTIC BOXES AND MOVE TO K13.

b You told me earlier that you had period(s) when you felt (depressed/high/persistently irritable).

Were the beliefs and experiences you just described (SYMPTOMS CODED YES FROM K1a TO K7a) restricted exclusively to times when you were feeling depressed/high/irritable?

IF THE PATIENT EVER HAD A PERIOD OF AT LEAST 2 WEEKS OF HAVING THESE BELIEFS OR EXPERIENCES (PSYCHOTIC SYMPTOMS) WHEN THEY WERE NOT DEPRESSED/HIGH/IRRITABLE, CODE NO TO THIS DISORDER.

IF THE ANSWER IS NO TO THIS DISORDER, ALSO CIRCLE NO TO K12 AND MOVE TO K13

NO YES

**MOOD DISORDER WITH  
PSYCHOTIC FEATURES**

**LIFETIME**

K12 a ARE 1 OR MORE « b » QUESTIONS FROM K1b TO K7b CODED YES OR YES BIZARRE AND IS EITHER:

MAJOR DEPRESSIVE EPISODE, (CURRENT)

OR

MANIC OR HYPOMANIC EPISODE, (CURRENT) CODED YES?

NO YES

**MOOD DISORDER WITH  
PSYCHOTIC FEATURES**

**CURRENT**

IF THE ANSWER IS YES TO THIS DISORDER (LIFETIME OR CURRENT), CIRCLE NO TO K13 AND K14 AND MOVE TO THE NEXT MODULE.

K13 ARE 1 OR MORE « b » QUESTIONS FROM K1b TO K6b, CODED **YES BIZARRE**?

OR

ARE 2 OR MORE « b » QUESTIONS FROM K1b TO K10b, CODED **YES** (RATHER THAN **YES BIZARRE**)?

AND DID AT LEAST TWO OF THE PSYCHOTIC SYMPTOMS OCCUR DURING THE SAME 1 MONTH PERIOD?

**NO**

**YES**

***PSYCHOTIC DISORDER  
CURRENT***

K14 IS **K13** CODED **YES**

OR

ARE 1 OR MORE « a » QUESTIONS FROM K1a TO K6a, CODED **YES BIZARRE**?

OR

ARE 2 OR MORE « a » QUESTIONS FROM K1a TO K7a, CODED **YES** (RATHER THAN **YES BIZARRE**)

AND DID AT LEAST TWO OF THE PSYCHOTIC SYMPTOMS OCCUR DURING THE SAME 1 MONTH PERIOD?

**NO**

**YES**

***PSYCHOTIC DISORDER  
LIFETIME***

## L. ANOREXIA NERVOSA

(➔ MEANS : GO TO THE DIAGNOSTIC BOX, CIRCLE NO, AND MOVE TO THE NEXT MODULE)

L1	a	How tall are you?	<input type="text"/> ft <input type="text"/> in.
			<input type="text"/> cm.
	b.	What was your lowest weight in the past 3 months?	<input type="text"/> lbs.
			<input type="text"/> kgs.
c		IS PATIENT'S WEIGHT EQUAL TO OR BELOW THE THRESHOLD CORRESPONDING TO HIS / HER HEIGHT? (SEE TABLE BELOW)	➔ NO YES

**In the past 3 months:**

L2		In spite of this low weight, have you tried not to gain weight?	➔ NO YES
L3		Have you intensely feared gaining weight or becoming fat, even though you were underweight?	➔ NO YES
L4	a	Have you considered yourself too big / fat or that part of your body was too big / fat?	NO YES
	b	Has your body weight or shape greatly influenced how you felt about yourself?	NO YES
	c	Have you thought that your current low body weight was normal or excessive?	NO YES
L5		ARE 1 OR MORE ITEMS FROM L4 CODED YES?	➔ NO YES
L6		FOR WOMEN ONLY: During the last 3 months, did you miss all your menstrual periods when they were expected to occur (when you were not pregnant)?	➔ NO YES

FOR WOMEN: ARE L5 AND L6 CODED YES?

FOR MEN: IS L5 CODED YES?

NO YES

**ANOREXIA NERVOSA  
CURRENT**

**HEIGHT / WEIGHT TABLE** CORRESPONDING TO A BMI THRESHOLD OF 17.5 kg/m<sup>2</sup>

Height/Weight														
ft/in	4'9	4'10	4'11	5'0	5'1	5'2	5'3	5'4	5'5	5'6	5'7	5'8	5'9	5'10
lbs.	81	84	87	89	92	96	99	102	105	108	112	115	118	122
cm	145	147	150	152	155	158	160	163	165	168	170	173	175	178
kgs	37	38	39	41	42	43	45	46	48	49	51	52	54	55

Height/Weight					
ft/in	5'11	6'0	6'1	6'2	6'3
lbs.	125	129	132	136	140
cm	180	183	185	188	191
kgs	57	59	60	62	64

The weight thresholds above are calculated using a body mass index (BMI) equal to or below 17.5 kg/m<sup>2</sup> for the patient's height. This is the threshold guideline below which a person is deemed underweight by the DSM-IV and the ICD-10 Diagnostic Criteria for Research for Anorexia Nervosa.

## M. BULIMIA NERVOSA

(➔ MEANS : GO TO THE DIAGNOSTIC BOXES, CIRCLE NO IN ALL DIAGNOSTIC BOXES, AND MOVE TO THE NEXT MODULE)

M1	In the past three months, did you have eating binges or times when you ate a very large amount of food within a 2-hour period?	➔ NO	YES
M2	In the last 3 months, did you have eating binges as often as twice a week?	➔ NO	YES
M3	During these binges, did you feel that your eating was out of control?	➔ NO	YES
M4	Did you do anything to compensate for, or to prevent a weight gain from these binges, like vomiting, fasting, exercising or taking laxatives, enemas, diuretics (fluid pills), or other medications?	➔ NO	YES
M5	Does your body weight or shape greatly influence how you feel about yourself?	➔ NO	YES
M6	DO THE PATIENT'S SYMPTOMS MEET CRITERIA FOR ANOREXIA NERVOSA?	NO ↓ Skip to M8	YES
M7	Do these binges occur only when you are under ( ____lbs./kgs.)? <small>INTERVIEWER: WRITE IN THE ABOVE PARENTHESIS THE THRESHOLD WEIGHT FOR THIS PATIENT'S HEIGHT FROM THE HEIGHT / WEIGHT TABLE IN THE ANOREXIA NERVOSA MODULE.</small>	NO	YES

M8 IS **M5** CODED **YES** AND IS EITHER **M6** OR **M7** CODED **NO**?

**NO** **YES**

***BULIMIA NERVOSA***  
**CURRENT**

IS **M7** CODED **YES**?

**NO** **YES**

***ANOREXIA NERVOSA***  
***Binge Eating/Purging Type***  
**CURRENT**

## N. GENERALIZED ANXIETY DISORDER

(➔ MEANS : GO TO THE DIAGNOSTIC BOX, CIRCLE NO, AND MOVE TO THE NEXT MODULE)

N1	a	Were you excessively anxious or worried about several routine things, over the past 6 months? IN ENGLISH, IF THE PATIENT IS UNCLEAR ABOUT WHAT YOU MEAN, PROBE BY ASKING (Do others think that you are a “worry wart”) AND GET EXAMPLES.	➔ NO	YES
	b	Are these anxieties and worries present most days?	➔ NO	YES
		ARE THE PATIENT’S ANXIETY AND WORRIES RESTRICTED EXCLUSIVELY TO, OR BETTER EXPLAINED BY, ANY DISORDER PRIOR TO THIS POINT?	➔ NO	YES
N2		Do you find it difficult to control the worries?	➔ NO	YES
N3		FOR THE FOLLOWING, CODE <b>NO</b> IF THE SYMPTOMS ARE CONFINED TO FEATURES OF ANY DISORDER EXPLORED PRIOR TO THIS POINT.		
		<b>When you were anxious over the past 6 months, did you, most of the time:</b>		
	a	Feel restless, keyed up or on edge?	NO	YES
	b	Have muscle tension?	NO	YES
	c	Feel tired, weak or exhausted easily?	NO	YES
	d	Have difficulty concentrating or find your mind going blank?	NO	YES
	e	Feel irritable?	NO	YES
	f	Have difficulty sleeping (difficulty falling asleep, waking up in the middle of the night, early morning waking or sleeping excessively)?	NO	YES
		ARE <b>3</b> OR MORE <b>N3</b> ANSWERS CODED <b>YES</b> ?	➔ NO	YES
N4		Do these anxieties and worries disrupt your normal work, school or social functioning or cause you significant distress?		

**NO** **YES**

**GENERALIZED ANXIETY  
DISORDER  
CURRENT**

## O. RULE OUT MEDICAL, ORGANIC OR DRUG CAUSES FOR ALL DISORDERS

IF THE PATIENT CODES POSITIVE FOR ANY CURRENT DISORDER ASK:

**Just before these symptoms began:**

- O1a Were you taking any drugs or medicines? ☐ No ☐ Yes ☐ Uncertain
- O1b Did you have any medical illness? ☐ No ☐ Yes ☐ Uncertain

IN THE CLINICIAN’S JUDGMENT: ARE EITHER OF THESE LIKELY TO BE DIRECT CAUSES OF THE PATIENT’S DISORDER?  
IF NECESSARY ASK ADDITIONAL OPEN-ENDED QUESTIONS.

- O2 SUMMARY:** HAS AN ORGANIC CAUSE BEEN RULED OUT? ☐ No ☐ Yes ☐ Uncertain

## P. ANTISOCIAL PERSONALITY DISORDER

(➡ MEANS : GO TO THE DIAGNOSTIC BOX AND CIRCLE NO)

### P1 Before you were 15 years old, did you:

- |                                     |   |    |     |
|-------------------------------------|---|----|-----|
| a                                   | repeatedly skip school or run away from home overnight? | NO | YES |
| b                                   | repeatedly lie, cheat, "con" others, or steal?          | NO | YES |
| c                                   | start fights or bully, threaten, or intimidate others?  | NO | YES |
| d                                   | deliberately destroy things or start fires?             | NO | YES |
| e                                   | deliberately hurt animals or people?                    | NO | YES |
| f                                   | force someone to have sex with you?                     | NO | YES |
|                                     |   | ➡  |     |
| ARE 2 OR MORE P1 ANSWERS CODED YES? |   | NO | YES |

DO NOT CODE YES TO THE BEHAVIORS BELOW IF THEY ARE EXCLUSIVELY POLITICALLY OR RELIGIOUSLY MOTIVATED.

### P2 Since you were 15 years old, have you:

- |   |  |    |     |
|---|--|----|-----|
| a | repeatedly behaved in a way that others would consider irresponsible, like failing to pay for things you owed, deliberately being impulsive or deliberately not working to support yourself? | NO | YES |
| b | done things that are illegal even if you didn't get caught (for example, destroying property, shoplifting, stealing, selling drugs, or committing a felony)?                                 | NO | YES |
| c | been in physical fights repeatedly (including physical fights with your spouse or children)?   | NO | YES |
| d | often lied or "conned" other people to get money or pleasure, or lied just for fun?  | NO | YES |
| e | exposed others to danger without caring?   | NO | YES |
| f | felt no guilt after hurting, mistreating, lying to, or stealing from others, or after damaging property?   | NO | YES |

ARE 3 OR MORE P2 QUESTIONS CODED YES?

NO

YES

**ANTISOCIAL PERSONALITY  
DISORDER  
LIFETIME**

THIS CONCLUDES THE INTERVIEW

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## MOOD DISORDERS: DIAGNOSTIC ALGORITHM

Consult Modules:

A	Major Depressive Episode
C	(Hypo) manic Episode
K	Psychotic Disorders

### MODULE K:

1a	IS <b>K11b</b> CODED YES?	NO	YES
1b	IS <b>K12a</b> CODED YES?	NO	YES

### MODULES A and C:

		Current	Past
2	a CIRCLE YES IF A DELUSIONAL IDEA IS IDENTIFIED IN <b>A3e</b> ?	YES	YES
	b CIRCLE YES IF A DELUSIONAL IDEA IS IDENTIFIED IN <b>C3a</b> ?	YES	YES

- c Is a Major Depressive Episode coded YES (current or past)?  
**and**  
 is Manic Episode coded NO (current and past)?  
**and**  
 is Hypomanic Episode coded NO (current and past)?  
**and**  
 is "Hypomanic Symptoms" coded NO (current and past)?

**Specify:**

- If the depressive episode is **current** or **past** or both
- **With Psychotic Features** Current: If 1b or 2a (current) = YES  
 With Psychotic Features Past: If 1a or 2a (past) = YES

**MAJOR DEPRESSIVE DISORDER**

	current	past
<b>MDD</b>	<input type="checkbox"/>	<input type="checkbox"/>
<b>With Psychotic Features</b>		
Current	<input type="checkbox"/>	
Past	<input type="checkbox"/>	

- d Is a Manic Episode coded YES (current or past)?

**Specify:**

- If the Bipolar I Disorder is **current** or **past** or both
- With **Single Manic Episode**: If Manic episode (current or past) = YES  
 and MDE (current and past) = NO
- **With Psychotic Features** Current: If 1b or 2a (current) or 2b (current) = YES  
 With Psychotic Features Past: If 1a or 2a (past) or 2b (past) = YES
- If the **most recent episode** is manic, depressed,  
 mixed or hypomanic or unspecified (all mutually exclusive)
- **Unspecified** if the Past Manic Episode is coded YES AND  
 Current (C3 Summary AND C4a AND C6 AND O2) are coded YES

**BIPOLAR I DISORDER**

	current	past
<b>Bipolar I Disorder</b>	<input type="checkbox"/>	<input type="checkbox"/>
Single Manic Episode	<input type="checkbox"/>	<input type="checkbox"/>
<b>With Psychotic Features</b>		
Current	<input type="checkbox"/>	
Past	<input type="checkbox"/>	
<b>Most Recent Episode</b>		
Manic	<input type="checkbox"/>	
Depressed	<input type="checkbox"/>	
Mixed	<input type="checkbox"/>	
Hypomanic	<input type="checkbox"/>	
Unspecified	<input type="checkbox"/>	

- e Is Major Depressive Episode coded YES (current or past)?  
**and**  
 Is Hypomanic Episode coded YES (current or past)?  
**and**  
 Is Manic Episode coded NO (current and past)?

**Specify:**

- If the Bipolar Disorder is **current** or **past** or both
- If the most recent mood episode is **hypomanic** or **depressed** (mutually exclusive)

<b><i>BIPOLAR II DISORDER</i></b>		
	current	past
Bipolar II Disorder	<input type="checkbox"/>	<input type="checkbox"/>
<b><i>Most Recent Episode</i></b>		
Hypomanic	<input type="checkbox"/>	
Depressed	<input type="checkbox"/>	

- f Is MDE coded NO (current and past)  
**and**  
 Is Manic Episode coded NO (current and past)?  
**and is either:**

1) C7b coded YES for the appropriate time frame?

**or**

2) C3 Summary coded YES for the appropriate time frame?

**and**

C4a coded YES for the appropriate time frame?

**and**

C7c coded YES for the appropriate time frame?

Specify if the Bipolar Disorder NOS is **current** or **past** or both

<b><i>BIPOLAR DISORDER NOS</i></b>		
	current	past
Bipolar Disorder NOS	<input type="checkbox"/>	<input type="checkbox"/>

## M.I.N.I. PLUS

The shaded modules below are additional modules available in the MINI PLUS beyond what is available in the standard MINI. The un-shaded modules below are in the standard MINI.

These MINI PLUS modules can be inserted into or used in place of the standard MINI modules, as dictated by the specific needs of any study.

MODULES		TIME FRAME
A	MAJOR DEPRESSIVE EPISODE	Current (2 weeks) Past Recurrent
	MOOD DISORDER DUE TO A GENERAL MEDICAL CONDITION	Current Past
	SUBSTANCE INDUCED MOOD DISORDER	Current Past
	MDE WITH MELANCHOLIC FEATURES	Current (2 weeks)
	MDE WITH ATYPICAL FEATURES	Current (2 weeks)
	MDE WITH CATATONIC FEATURES	Current (2 weeks)
B	DYSTHYMIA	Current (Past 2 years) Past
C	SUICIDALITY	Current (Past Month) Risk: <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High
D	MANIC EPISODE	Current Past
	HYPOMANIC EPISODE	Current Past
	BIPOLAR I DISORDER	Current Past
	BIPOLAR II DISORDER	Current Past
	BIPOLAR DISORDER NOS	Current Past
	MANIC EPISODE DUE TO A GENERAL MEDICAL CONDITION	Current Past
	HYPOMANIC EPISODE DUE TO A GENERAL MEDICAL CONDITION	Current Past
	SUBSTANCE INDUCED MANIC EPISODE	Current Past
	SUBSTANCE INDUCED HYPOMANIC EPISODE	Current Past
E	PANIC DISORDER	Current (Past Month) Lifetime
	ANXIETY DISORDER WITH PANIC ATTACKS DUE TO A GENERAL MEDICAL CONDITION	Current
	SUBSTANCE INDUCED ANXIETY DISORDER WITH PANIC ATTACKS	Current
F	AGORAPHOBIA	Current
G	SOCIAL PHOBIA (Social Anxiety Disorder)	Current (Past Month)
H	SPECIFIC PHOBIA	Current
I	OBSESSIVE-COMPULSIVE DISORDER	Current (Past Month)
	OCD DUE TO A GENERAL MEDICAL CONDITION	Current
	SUBSTANCE INDUCED OCD	Current
J	POSTTRAUMATIC STRESS DISORDER	Current (Past Month)
K	ALCOHOL DEPENDENCE	Past 12 Months
	ALCOHOL DEPENDENCE	Lifetime
	ALCOHOL ABUSE	Past 12 Months
	ALCOHOL ABUSE	Lifetime
L	SUBSTANCE DEPENDENCE (Non-alcohol)	Past 12 Months
	SUBSTANCE DEPENDENCE (Non-alcohol)	Lifetime
	SUBSTANCE ABUSE (Non-alcohol)	Past 12 Months

M	PSYCHOTIC DISORDERS	Lifetime
		Current
	MOOD DISORDER WITH PSYCHOTIC FEATURES	Current
	SCHIZOPHRENIA	Current
		Lifetime
	SCHIZOAFFECTIVE DISORDER	Current
		Lifetime
	SCHIZOPHRENIFORM DISORDER	Current
		Lifetime
	BRIEF PSYCHOTIC DISORDER	Current
		Lifetime
	DELUSIONAL DISORDER	Current
		Lifetime
	PSYCHOTIC DISORDER DUE TO A GENERAL MEDICAL CONDITION	Current
		Lifetime
	SUBSTANCE INDUCED PSYCHOTIC DISORDER	Current
		Lifetime
	PSYCHOTIC DISORDER NOS	Current
		Lifetime
	MOOD DISORDER WITH PSYCHOTIC FEATURES	Lifetime
	MOOD DISORDER NOS	Lifetime
	MAJOR DEPRESSIVE DISORDER WITH PSYCHOTIC FEATURES	Current
		Past
	BIPOLAR I DISORDER WITH PSYCHOTIC FEATURES	Current
		Past
N	ANOREXIA NERVOSA	Current (Past 3 Months)
O	BULIMIA NERVOSA	Current (Past 3 Months)
	BULIMIA NERVOSA PURGING TYPE	Current
	BULIMIA NERVOSA NONPURGING TYPE	Current
	ANOREXIA NERVOSA, BINGE EATING/PURGING TYPE	Current
	ANOREXIA NERVOSA, RESTRICTING TYPE	Current
P	GENERALIZED ANXIETY DISORDER	Current (Past 6 Months)
	GENERALIZED ANXIETY DISORDER DUE TO A GENERAL MEDICAL CONDITION	Current
	SUBSTANCE INDUCED GAD	Current
Q	ANTISOCIAL PERSONALITY DISORDER	Lifetime
R	SOMATIZATION DISORDER	Lifetime
		Current
S	HYPOCHONDRIASIS	Current
T	BODY DYSMORPHIC DISORDER	Current
U	PAIN DISORDER	Current
V	CONDUCT DISORDER	Past 12 Months
W	ATTENTION DEFICIT/HYPERACTIVITY DISORDER (Children/Adolescents)	Past 6 Months
	ATTENTION DEFICIT/HYPERACTIVITY DISORDER (Adults)	Lifetime
		Current
X	ADJUSTMENT DISORDERS	Current
Y	PREMENSTRUAL DYSPHORIC DISORDER	Current
Z	MIXED ANXIETY-DEPRESSIVE DISORDER	Current



# WECHSLER ABBREVIATED SCALE OF INTELLIGENCE™

## Record Form

Name \_\_\_\_\_ ID \_\_\_\_\_

Address/School \_\_\_\_\_ Grade/ Highest Education \_\_\_\_\_

Examiner \_\_\_\_\_

	Year	Month	Day
Date of Testing			
Date of Birth			
Age			

Subtest Scores			
Subtest	Raw Score	T Score	
Vocabulary			
Block Design			
Similarities			
Matrix Reasoning			
Sums of T Scores		Verbal	Performance
		4-Subtest	2-Subtest
Full-Scale			

	WASI IQ Scores				Prediction Intervals			
	Sum of T Scores	IQ	Percentile	% Confidence Interval	WISC-III		WAIS-III	
					90%	68%	90%	68%
Verb.				-				
Perf.				-				
Full-4				-	-	-	-	-

Full-2				-
--------	--	--	--	---

	Profile of Subtest Scores				Profile of IQ Scores		
	Verbal		Performance		VIQ	PIQ	FSIQ
	V	S	BD	MR			
80							
75							
70							
65							
60							
55							
50							
45							
40							
35							
30							
25							
20							
160							
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60							
55							
50							

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# 1. Vocabulary



## Start Point

Ages 6–8: Item 5  
Ages 9–89: Item 9



## Reverse Rule

All Ages: Administer Items 1–4 in forward sequence if score of 0 or 1 on Item 5 or 6.

Ages 9–89: Administer Items 5–8 in reverse sequence if score of 0 or 1 on Item 9 or 10.



## Discontinue Rule

After 5 consecutive scores of 0



## Stop Point

Ages 6–8: After Item 30  
Ages 9–11: After Item 34  
Ages 12–16: After Item 38  
Ages 17–89: No stop point



## Scoring Rule

Items 1–4: 0 or 1  
Items 5–42: 0, 1, or 2

Item	Response	Score (0 or 1)
1. Fish		
2. Shovel		
3. Map		
4. Shell		
6-8 → 5. Shirt		(0, 1, 2)
6. Shoe		
7. Flashlight		
8. Car		
9-89 → 9. Bird		
10. Calendar		
11. Number		
12. Bell		
13. Lunch		
14. Police		
15. Vacation		
16. Pet		
17. Balloon		
18. Transform		
19. Alligator		

# 1. Vocabulary *(Continued)*

Item	Response	Score (0, 1, 2)
20. Cart		
21. Blame		
22. Dance		
23. Purpose		
24. Entertain		
25. Famous		
26. Reveal		
27. Decade		
28. Tradition		
29. Rejoice		
30. Enthusiastic		
31. Improvise		
32. Impulse		
33. Haste		
34. Trend		
35. Intermittent		
36. Devout		
37. Impertinent		
38. Niche		
39. Presumptuous		
40. Formidable		
41. Ruminant		
42. Panacea		

6-8 STOP

9-11 STOP

12-16 STOP

## Maximum Raw Score

Ages 6-8: 56  
Ages 9-11: 64  
Ages 12-16: 72  
Ages 17-89: 80

Total  
Raw Score

## 2. Block Design



### Start Point

Ages 6-8: Design 1  
Ages 9-89: Design 3



### Reverse Rule

Ages 9-89: Administer Items 1-2 in reverse sequence if score of 0 or 1 on Item 3 or 4.



### Discontinue Rule

After 3 consecutive scores of 0



### Scoring Rule

Items 1-4: 2 for a correct design on Trial 1  
1 for a correct design on Trial 2  
0 for incorrect designs on Trials 1 & 2  
Items 5-13: 0-7

Examinee

Design	Time Limit	Incorrect Design	Completion Time in Seconds	Correct Design	Score (Circle the appropriate score for each design.)
1.	30"	Trial 1 	Trial 2 	Y N	0 1 2
2.	60"	Trial 1 	Trial 2 	Y N	0 1 2
3.	60"	Trial 1 	Trial 2 	Y N	0 1 2
4.	60"	Trial 1 	Trial 2 	Y N	0 1 2
5.	60"			Y N	0 21"-60" 4 16"-20" 5 11"-15" 6 1"-10" 7
6.	60"			Y N	0 21"-60" 4 16"-20" 5 11"-15" 6 1"-10" 7
7.	60"			Y N	0 21"-60" 4 16"-20" 5 11"-15" 6 1"-10" 7
8.	60"			Y N	0 21"-60" 4 16"-20" 5 11"-15" 6 1"-10" 7
9.	60"			Y N	0 21"-60" 4 16"-20" 5 11"-15" 6 1"-10" 7
10.	120"			Y N	0 66"-120" 4 46"-65" 5 31"-45" 6 1"-30" 7
11.	120"			Y N	0 76"-120" 4 56"-75" 5 41"-55" 6 1"-40" 7
12.	120"			Y N	0 76"-120" 4 56"-75" 5 41"-55" 6 1"-40" 7
13.	120"			Y N	0 76"-120" 4 56"-75" 5 41"-55" 6 1"-40" 7

Examiner

Maximum Raw Score  
All Ages: 71

Total  
Raw Score



### 3. Similarities



#### Start Point

Ages 6-8: Item 1  
Ages 9-11: Item 5  
Ages 12-89: Item 7



#### Reverse Rule

Ages 9-89: Administer Items 1-4 in forward sequence if score of 0 or 1 on Item 5 or 6.

Ages 12-89: Administer Items 5 & 6 in reverse sequence if score of 0 or 1 on Item 7 or 8.



#### Discontinue Rule

After 4 consecutive scores of 0



#### Stop Point

Ages 6-8: After Item 20  
Ages 9-11: After Item 24  
Ages 12-89: No stop point



#### Scoring Rule

Items 1-4: 0 or 1  
Items 5-26: 0, 1, or 2

	Item	Response					Score
							(0 or 1)
6-8	1. Four-Wheeled	Ship	BUS	Bike	Train		
	2. Dining Items	SPOON	Pan	Bowl	Can Opener		
	3. Clothing	Jump Rope	Ball	SHOES	Crayons		
	4. Fruits	BANANA	Bean	Pumpkin	Potato		
9-11	5. Red-Blue						(0, 1, 2)
	6. Circle-Square						
12-89	7. Grapes-Strawberries						
	8. Cow-Bear						
	9. Plane-Bus						
	10. Shirt-Jacket						
	11. Pen-Pencil						
	12. Bowl-Plate						
	13. Love-Hate						
	14. TV-Newspaper						
	15. Smooth-Rough						
	16. Shoulder-Ankle						
	17. Sit-Run						
	18. Child-Adult						
	19. Steam-Cloud						
STOP	20. Bird-Flower						
	21. More-Less						
	22. Photograph-Song						

### 3. Similarities (Continued)

9-11 STOP

Item	Response	Score
23. Peace-War		(0, 1, 2)
24. Capitalism-Socialism		
25. Tradition-Habit		
26. Freedom-Law		

#### Maximum Raw Score

Ages 6-8: 36

Ages 9-11: 44

Ages 12-89: 48

Total  
Raw Score

### 4. Matrix Reasoning



#### Start Point

Administer Sample Items A and B first.

Ages 6-8: Item 1

Ages 9-11: Item 5

Ages 12-44: Item 7

Ages 45-79: Item 5

Ages 80-89: Item 1



#### Reverse Rule

Ages 9-11 and Ages 45-79: Administer Items 1-4 in reverse sequence if score of 0 on Item 5 or 6.

Ages 12-44: Administer Items 1-6 in reverse sequence if score of 0 on Item 7 or 8.



#### Discontinue Rule

After 4 consecutive scores of 0 or after 4 scores of 0 on 5 consecutive items



#### Stop Point

Ages 6-8: After Item 28

Ages 9-11: After Item 32

Ages 12-44: No stop point

Ages 45-79: After Item 32

Ages 80-89: After Item 28



#### Scoring Rule

Items 1-35: 0 or 1

Item	Response Options (Circle One)	Score (0 or 1)
A.	1 <b>2</b> 3 4 5 DK	
B.	1 2 3 4 <b>5</b> DK	
1.	1 <b>2</b> 3 4 5 DK	
2.	1 2 3 <b>4</b> 5 DK	
3.	1 <b>2</b> 3 4 5 DK	
4.	1 2 3 <b>4</b> 5 DK	
5.	1 2 <b>3</b> 4 5 DK	
6.	<b>1</b> 2 3 4 5 DK	
7.	<b>1</b> 2 3 4 5 DK	
8.	1 2 <b>3</b> 4 5 DK	
9.	1 2 3 4 <b>5</b> DK	
10.	1 2 3 4 <b>5</b> DK	
11.	1 2 3 4 <b>5</b> DK	
12.	1 <b>2</b> 3 4 5 DK	
13.	1 2 <b>3</b> 4 5 DK	
14.	<b>1</b> 2 3 4 5 DK	
15.	1 <b>2</b> 3 4 5 DK	
16.	1 2 3 <b>4</b> 5 DK	
17.	1 2 <b>3</b> 4 5 DK	

Item	Response Options (Circle One)	Score (0 or 1)
18.	<b>1</b> 2 3 4 5 DK	
19.	<b>1</b> 2 3 4 5 DK	
20.	1 2 3 <b>4</b> 5 DK	
21.	1 2 3 4 <b>5</b> DK	
22.	1 2 3 4 <b>5</b> DK	
23.	1 <b>2</b> 3 4 5 DK	
24.	1 <b>2</b> 3 4 5 DK	
25.	<b>1</b> 2 3 4 5 DK	
26.	1 2 3 4 <b>5</b> DK	
27.	1 2 3 <b>4</b> 5 DK	
28.	1 2 <b>3</b> 4 5 DK	
29.	1 2 <b>3</b> 4 5 DK	
30.	1 2 3 <b>4</b> 5 DK	
31.	<b>1</b> 2 3 4 5 DK	
32.	1 2 3 <b>4</b> 5 DK	
33.	1 <b>2</b> 3 4 5 DK	
34.	1 2 <b>3</b> 4 5 DK	
35.	1 2 3 4 <b>5</b> DK	

#### Maximum Raw Score

Ages 6-8: 28

Ages 9-11: 32

Ages 12-44: 35

Ages 45-79: 32

Total  
Raw Score

## Ohio State University TBI Identification Method Short Form\*

**I would like to ask you about injuries to your head or neck that you may have had at anytime in your life.**

*Interviewer instruction:* Record cause and any details provided spontaneously in the box at the bottom of the page. DO NOT query further about LOC or other details at this stage.

1. Have you ever been hospitalized or treated in an emergency room following an injury to your head or neck? Think about any childhood injuries you remember or were told about.  
☐ Yes—Record cause(s) in table below  
☐ No
2. Have you ever injured your head or neck in a car accident or from some other moving vehicle accident (e.g. motorcycle, ATV)?  
☐ Yes—Record cause(s) in table below  
☐ No
3. Have you ever injured your head or neck in a fall or from being hit by something (e.g. falling from a bike, horse, or rollerblades, falling on ice, being hit by a rock)? Have you ever injured your head or neck playing sports or on the playground?  
☐ Yes—Record cause(s) in table below  
☐ No
4. Have you ever injured your head or neck in a fight, from being hit by someone, or from being shaken violently? Have you ever been shot in the head?  
☐ Yes—Record cause(s) in table below  
☐ No
5. Have you ever been nearby when an explosion or a blast occurred? If you served in the military, think about any combat- or training-related incidents.  
☐ Yes—Record cause(s) in table below  
☐ No
6. If all above are “no” then proceed to question 7. If answered “yes” to *any* of the questions above, ask the following for each injury: **Were you knocked or did you lose consciousness (LOC)? If yes, how long? If no, were you dazed or did you have a gap in your memory from the injury? How old were you? (age is only needed if there was LOC)**

Cause	Loss of consciousness (LOC)/knocked out				Dazed/Memory Gap		Age
	No LOC	< 30 min	30 min-24 hrs	> 24 hrs.	Yes	No	

If more injuries with LOC: How many more? \_\_\_ Longest knocked out? \_\_\_ How many ≥ 30 mins.? \_\_\_ Youngest age? \_\_\_

7. Have you ever lost consciousness from a drug overdose or being choked? \_\_\_# overdose \_\_\_# choked

\* adapted with permission from the Ohio State University TBI Identification Method (Corrigan, J.D., Bogner, J.A. (2007). Initial reliability and validity of the OSU TBI Identification Method. *J Head Trauma Rehabil*, 22(6):318-329,

β reserved 2007, The Ohio Valley Center for Brain Injury Prevention and Rehabilitation

## **SCORING**

- \_\_\_\_\_ # **TBI-LOC** (number of TBI's with loss of consciousness from #6a)
- \_\_\_\_\_ # **TBI-LOC  $\geq$  30** (number of TBI's with loss of consciousness  $\geq$  30 minutes from #6a)
- \_\_\_\_\_ **age at first TBI-LOC** (youngest age from #6a)
- \_\_\_\_\_ **TBI-LOC before age 15** (if youngest age from #7B < 15 then =1, if  $\geq$  15 then = 0)
- \_\_\_\_\_ **Worst Injury** (1-5):
  - If responses to #1-5 are "no" classify as 1 "improbable TBI".
  - If in response to #6a and 6b reports never having LOC, being dazed or having memory lapses classify as 1 "improbable TBI".
  - If in response to #6b reports being dazed or having a memory lapse classify as 2 "possible TBI".
  - If in response to #6a loss of consciousness (LOC) does not exceed 30 minutes for any injury classify as 3 "mild TBI".
  - If in response to #6a LOC for any one injury is between 30 minutes and 24 hours classify as 4 "moderate TBI".
  - If in response to #6a LOC for any one injury exceeds 24 hours classify as 5 "severe TBI".
- \_\_\_\_\_ # **anoxic injuries** (sum of incidents reported in #7)

# Rivermead Post Concussion Symptoms Questionnaire

Modified (Rpq-3 And Rpq-13)<sup>42</sup> Printed With Permission: Modified Scoring System From Eyres 2005 <sup>28</sup>

Name:

Date:

After a head injury or accident some people experience symptoms that can cause worry or nuisance. We would like to know if you now suffer any of the symptoms given below. Because many of these symptoms occur normally, we would like you to compare yourself now with before the accident. For each symptom listed below please circle the number that most closely represents your answer.

0 = not experienced at all  
1 = no more of a problem  
2 = a mild problem  
3 = a moderate problem  
4 = a severe problem

Compared with **before** the accident, do you **now** (i.e., over the last 24 hours) suffer from:

	not experienced	no more of a problem	mild problem	moderate problem	severe problem
Headaches	0	1	2	3	4
Feelings of dizziness	0	1	2	3	4
Nausea and/or vomiting	0	1	2	3	4
Noise sensitivity (easily upset by loud noise)	0	1	2	3	4
Sleep disturbance	0	1	2	3	4
Fatigue, tiring more easily	0	1	2	3	4
Being irritable, easily angered	0	1	2	3	4
Feeling depressed or tearful	0	1	2	3	4
Feeling frustrated or impatient	0	1	2	3	4
Forgetfulness, poor memory	0	1	2	3	4
Poor concentration	0	1	2	3	4
Taking longer to think	0	1	2	3	4
Blurred vision	0	1	2	3	4
Light sensitivity (easily upset by bright light)	0	1	2	3	4
Double vision	0	1	2	3	4
Restlessness	0	1	2	3	4

Are you experiencing any other difficulties? Please specify, and rate as above.

1.	0	1	2	3	4
2.	0	1	2	3	4

Administration only:

<b>RPQ-3</b> (total for first three items)	
<b>RPQ-13</b> (total for next 13 items)	

# Rivermead Post Concussion Symptoms Questionnaire (cont.)

Modified (Rpq-3 And Rpq-13)<sup>42</sup> Printed With Permission: Modified Scoring System From Eyres 2005<sup>28</sup>

## Administration only

Individual item scores reflect the presence and severity of post concussive symptoms. Post concussive symptoms, as measured by the RPQ, may arise for different reasons subsequent to (although not necessarily directly because of) a traumatic brain injury. The symptoms overlap with broader conditions, such as pain, fatigue and mental health conditions such as depression<sup>72</sup>.

The questionnaire can be repeated to monitor a patient's progress over time. There may be changes in the severity of symptoms, or the range of symptoms. Typical recovery is reflected in a reduction of symptoms and their severity within three months.

## Scoring

The scoring system has been modified from Eyres, 2005<sup>24</sup>.

The items are scored in two groups. The first group (RPQ-3) consists of the first three items (headaches, feelings of dizziness and nausea) and the second group (RPQ-13) comprises the next 13 items. The total score for RPQ-3 items is potentially 0–12 and is associated with early symptom clusters of post concussive symptoms. If there is a higher score on the RPQ-3, earlier reassessment and closer monitoring is recommended.

The RPQ-13 score is potentially 0–52, where higher scores reflect greater severity of post concussive symptoms. The RPQ-13 items are associated with a later cluster of symptoms, although the RPQ-3 symptoms of headaches, dizziness and nausea may also be present. The later cluster of symptoms is associated with having a greater impact on participation, psychosocial functioning and lifestyle. Symptoms are likely to resolve within three months. A gradual resumption of usual activities is recommended during this period, appropriate to symptoms. If the symptoms do not resolve within three months, consideration of referral for specialist assessment or treatment services is recommended.

## References:

Eyres, S., Carey, A., Gilworth, G., Neumann, V., Tennant, A. (2005). Construct validity and reliability of the Rivermead Post Concussion Symptoms Questionnaire. *Clinical Rehabilitation*, 19, 878-887.

King, N. S., Crawford, S., Wenden, F.J., Moss, N.E.G. Wade, D.T. (1995). The Rivermead Post Concussion Symptoms Questionnaire: a measure of symptoms commonly experienced after head injury and its reliability *Journal of Neurology*, 242, 587-592.

Potter, S., Leigh, E., Wade, D., Fleminger, S. (2006). The Rivermead Post Concussion Symptoms Questionnaire *Journal of Neurology*, October 1-12.

## **Satisfaction with Life Scale**

Below are five statements with which you may agree or disagree.

Indicate your agreement with each item by placing the appropriate number on the line preceding that item.

Please be open and honest in your responding.

The 7-point scale is as follows:

1 = strongly disagree

2 = disagree

3 = slightly disagree

4 = neither agree nor disagree

5 = slightly agree

6 = agree

7 = strongly agree

\_\_\_ 1. In most ways my life is close to my ideal.

\_\_\_ 2. The conditions of my life are excellent.

\_\_\_ 3. I am satisfied with my life.

\_\_\_ 4. So far I have gotten the important things I want in life.

\_\_\_ 5. If I could live my life over, I would change almost nothing.

**Box 10****The Alcohol Use Disorders Identification Test: Self-Report Version**

PATIENT: Because alcohol use can affect your health and can interfere with certain medications and treatments, it is important that we ask some questions about your use of alcohol. Your answers will remain so please be honest. Place an X in one box that best describes your answer to each question.

Questions	0	1	2	3	4	
1. How often do you have a drink containing alcohol?	Never	Monthly or less	2-4 times a month	2-3 times a week	4 or more times a week	
2. How many drinks containing alcohol do you have on a typical day when you are drinking?	1 or 2	3 or 4	5 or 6	7 to 9	10 or more	
3. How often do you have six or more drinks on one occasion?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
4. How often during the last year have you found that you were not able to stop drinking once you had started?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
5. How often during the last year have you failed to do what was normally expected of you because of drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
6. How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
7. How often during the last year have you had a feeling of guilt or remorse after drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
8. How often during the last year have you been unable to remember what happened the night before because of your drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
9. Have you or someone else been injured because of your drinking?	No		Yes, but not in the last year		Yes, during the last year	
10. Has a relative, friend, doctor, or other health care worker been concerned about your drinking or suggested you cut down?	No		Yes, but not in the last year		Yes, during the last year	
					<b>Total</b>	



## DAY OF SCAN INFORMATION QUESTIONNAIRE

SUBJECT #: \_\_\_\_\_

DATE: \_\_\_\_/\_\_\_\_/\_\_\_\_

---

DATE OF BIRTH

\_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_  
day month year

AGE

\_\_\_\_\_ years

HEIGHT

\_\_\_\_\_ ft/inches

WEIGHT

\_\_\_\_\_ lbs

SEX

☐ **MALE**

☐ **FEMALE**

For females only:

When was the start of your last menstrual period?

Be as precise as possible.

Date of period: \_\_\_\_\_

or about \_\_\_\_\_ days ago.

RIGHT or LEFT-HANDED?

☐ **RIGHT**

☐ **LEFT**

☐ **BOTH/NEITHER**

Do you have any problems with reading?

☐ **NO**

☐ **YES**

**EDUCATION:** What is the highest grade or level of school you have completed or the highest degree you have obtained? *Please choose one:*

- ☐ 9th Grade
- ☐ 10th Grade
- ☐ 11th Grade
- ☐ 12th Grade, no diploma
- ☐ High school graduate
- ☐ GED or equivalent
- ☐ Some college, no degree
- ☐ Associate degree: occupational, technical, or vocational program
- ☐ Associate degree: academic program
- ☐ Bachelor's degree (e.g., BA, AB, BS, BBA)
- ☐ Master's degree (e.g., MA, MS, MEng, MEd, MBA)
- ☐ Professional school degree (e.g., MD, DDS, DVM, JD)
- ☐ Doctoral degree (e.g., PhD, EdD)
- ☐ Unknown

Are you currently doing shift work (e.g., working early morning, evening, or night shifts?)

- ☐ **NO**      ☐ **YES**

Do you engage in regular exercise?

- ☐ **NO**      ☐ **YES**

Which sport? \_\_\_\_\_

How many days per week? \_\_\_\_\_

How many minutes per exercise session (on average)? \_\_\_\_\_

## **CAFFEINE USE**

Did you have any caffeine containing products today?

☐ **NO** ☐ **YES**      How much? \_\_\_\_\_

On average, how many cups (=8oz) of caffeinated coffee do you drink per day? \_\_\_\_\_

On average, how many cups (=8oz) of caffeinated tea do you drink per day? \_\_\_\_\_

On average, how many cans of caffeinated soda do you drink per day? \_\_\_\_\_

On average, how many caffeinated sports drinks do you drink per day? \_\_\_\_\_ (brand)

Do you use any other caffeinated products (e.g. Vivarin)?

☐ **NO** ☐ **YES**      Brand? \_\_\_\_\_

How much? \_\_\_\_\_

How often? \_\_\_\_\_

## **NICOTINE AND OTHER SUBSTANCE USE**

Do you currently smoke cigarettes?

☐ **NO**

☐ **YES**

How many? \_\_\_\_\_ daily / weekly / monthly / yearly (*circle one*)

For how long? \_\_\_\_\_ years \_\_\_\_\_ months

Have you tried to quit? ☐ **NO** ☐ **YES**

How many times? \_\_\_\_\_

Have you ever smoked cigarettes in the past?

☐ **NO**

☐ **YES**

How many? \_\_\_\_\_ daily / weekly / monthly / yearly (*circle one*)

For how long? \_\_\_\_\_ years \_\_\_\_\_ months

When did you quit? \_\_\_\_\_ (approximate date)

Do you currently smoke large cigars?

☐ **NO**

☐ **YES**

How many? \_\_\_\_\_ daily / weekly / monthly/ yearly (*circle one*)

For how long? \_\_\_\_\_ years \_\_\_\_\_ months

Have you tried to quit? ☐ **NO** ☐ **YES**

How many times? \_\_\_\_\_

Have you ever smoked large cigars in the past?

☐ **NO**

☐ **YES**

How many? \_\_\_\_\_ daily / weekly / monthly / yearly (*circle one*)

For how long? \_\_\_\_\_ years \_\_\_\_\_ months

When did you quit? \_\_\_\_\_ (approximate date)

Do you currently smoke small cigars?

☐ **NO**

☐ **YES**

How many? \_\_\_\_\_ daily / weekly / monthly/ yearly (*circle one*)

For how long? \_\_\_\_\_ years \_\_\_\_\_ months

Have you tried to quit? ☐ **NO** ☐ **YES**

How many times? \_\_\_\_\_

Have you ever smoked small cigars in the past?

☐ **NO**      ☐ **YES**

How many? \_\_\_\_\_ daily / weekly / monthly / yearly (*circle one*)

For how long? \_\_\_\_\_ years \_\_\_\_\_ months

When did you quit? \_\_\_\_\_ (approximate date)

Do you currently smoke cigarillos?

☐ **NO**      ☐ **YES**

How many? \_\_\_\_\_ daily / weekly / monthly / yearly (*circle one*)

For how long? \_\_\_\_\_ years \_\_\_\_\_ months

Have you tried to quit?      ☐ **NO**      ☐ **YES**

How many times? \_\_\_\_\_

Have you ever smoked cigarillos in the past?

☐ **NO**      ☐ **YES**

How many? \_\_\_\_\_ daily / weekly / monthly / yearly (*circle one*)

For how long? \_\_\_\_\_ years \_\_\_\_\_ months

When did you quit? \_\_\_\_\_ (approximate date)

Do you currently use smokeless tobacco, such as dip or chew?

☐ **NO**      ☐ **YES**

About how much/ many? \_\_\_\_\_ daily / weekly / monthly / yearly (*circle one*)

For how long? \_\_\_\_\_ years \_\_\_\_\_ months

Have you tried to quit?      ☐ **NO** ☐ **YES**

How many times? \_\_\_\_\_

Have you ever used smokeless tobacco in the past?

☐ **NO**      ☐ **YES**

About how much/ many? \_\_\_\_\_ daily / weekly / monthly / yearly (*circle one*)

For how long? \_\_\_\_\_ years \_\_\_\_\_ months

When did you quit? \_\_\_\_\_ (approximate date)

Do you currently use any other nicotine-containing products?

☐ **NO**      ☐ **YES**

Which kind? \_\_\_\_\_

For how long? \_\_\_\_\_ years \_\_\_\_\_ months

How often? \_\_\_\_\_

Have you tried to quit? ☐ **NO** ☐ **YES**

How many times? \_\_\_\_\_

Have you ever used any other kind of nicotine containing products?

☐ **NO** ☐ **YES**

Which kind? \_\_\_\_\_

For how long? \_\_\_\_\_ years \_\_\_\_\_ months

How often? \_\_\_\_\_

Have you tried to quit? ☐ **NO** ☐ **YES**

How many times? \_\_\_\_\_

Are you currently taking diet pills?

☐ **NO** ☐ **YES**

What brand? \_\_\_\_\_

For how long? \_\_\_\_\_ years \_\_\_\_\_ months \_\_\_\_\_ days

How much? \_\_\_\_\_

How often? \_\_\_\_\_ daily / weekly / monthly / yearly (*circle one*)

Are you currently taking any medications, vitamins, or supplements?

☐ **NO** ☐ **YES**

Please list:

Name: \_\_\_\_\_

Dosage: \_\_\_\_\_

Name: \_\_\_\_\_

Dosage: \_\_\_\_\_

Name: \_\_\_\_\_

Dosage: \_\_\_\_\_

Name: \_\_\_\_\_

Dosage: \_\_\_\_\_

Have you ever used marijuana?

☐ **NO** ☐ **YES**

At what age did you start? \_\_\_\_\_

On approximately how many occasions have you used marijuana? \_\_\_\_\_

At what age did you quit? \_\_\_\_\_

In the past year, did you use marijuana?

☐ **NO**      ☐ **YES**

How often? \_\_\_\_\_ daily / weekly / monthly / yearly (*circle one*)

Do you currently use marijuana?

☐ **NO**      ☐ **YES**

How often? \_\_\_\_\_ daily / weekly / monthly / yearly (*circle one*)

Have you tried to quit?      ☐ **NO**      ☐ **YES**

How many times? \_\_\_\_\_

Have you ever used any other street drugs?

☐ **NO**      ☐ **YES**

What? \_\_\_\_\_

How much? \_\_\_\_\_

How often? \_\_\_\_\_

In the past year, did you use any other street drugs?

☐ **NO** ☐ **YES**

What? \_\_\_\_\_

How much? \_\_\_\_\_

How often? \_\_\_\_\_

Do you currently use any other street drugs?

☐ **NO**      ☐ **YES**

What? \_\_\_\_\_

How much? \_\_\_\_\_

How often? \_\_\_\_\_

Do you drink alcohol?

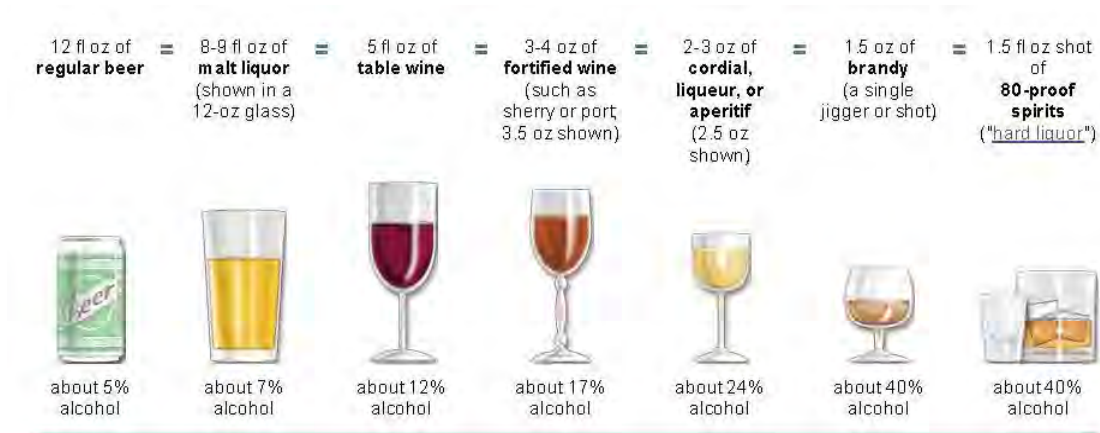
☐ **NO**      ☐ **YES**

How many times per month? \_\_\_\_\_

Using the below chart, what is the average number of drinks you consume on these occasions? \_\_\_\_\_

Using the chart, what is the largest number of drinks you consume? \_\_\_\_\_

One drink equals:





[illegible]

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☐ NO      ☐ YES, IMMEDIATELY AFTER THE INJURY  
☐ YES, NOT IMMEDIATELY AFTER THE INJURY

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☐ **NO**

☐ **YES, ALCOHOL**

☐ **YES, MEDICATION** (which?) \_\_\_\_\_

☐ **YES, DRUGS** (which?) \_\_\_\_\_

☐ NO      ☐ DO NOT KNOW      ☐ YES☐ NO      ☐ DO NOT KNOW      ☐ YES☐ NO ☐ DO NOT KNOW ☐ YES

Approved McLean IRB  
2012p001515 08/31/2012 through 08/30/2013

- ☐ <1 minute
- ☐ 1-29 minutes
- ☐ 30-59 minutes
- ☐ 1-24 hours
- ☐ 1-7 days
- ☐ > 7 days
- ☐ Unknown

How was the loss of consciousness verified?

- ☐ **Self-report**                      ☐ **Witness**                      ☐ **Medical chart**

Do you have a PERSONAL memory of the event/ incident itself?

- ☐ **YES, I FULLY REMEMBER**                      ☐ **YES, BUT THERE ARE GAPS IN MY MEMORY**  
☐ **NO, I DO NOT REMEMBER AT ALL**

How much do you NOT remember after the injury?

- ☐ <1 minute
- ☐ 1-29 minutes
- ☐ 30-59 minutes
- ☐ 1-24 hours
- ☐ 1-7 days
- ☐ > 7 days
- ☐ Unknown

How was the memory loss verified?

- ☐ **Self-report**                      ☐ **Witness**                      ☐ **Medical chart**

After the injury, when did you feel back to yourself or 100%?

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## **SLEEP HABITS**

How much sleep did you get last night? \_\_\_\_\_ HRS

**Before** your injury, what time did you typically awaken on:

Weekdays (Mon-Fri)? \_\_\_\_\_ AM PM (midnight = 12 AM; noon = 12 PM)

Weekends (Sat-Sun)? \_\_\_\_\_ AM PM

**Before** your injury, how long did it typically take you to fall asleep at night?

Week nights (Sun-Thur) \_\_\_\_\_ MIN HRS (midnight = 12 AM; noon = 12 PM)

Weekends (Fri-Sat) \_\_\_\_\_ MIN HRS

**Before** your injury, at what time did you normally go to bed at night on:

Week nights (Sun-Thur)? \_\_\_\_\_ AM PM (midnight = 12 AM; noon = 12 PM)

Weekends (Fri-Sat)? \_\_\_\_\_ AM PM

**Before** the injury, did you experience sleep problems?

☐ **NO**      ☐ **YES, I had trouble falling asleep.**

How often? \_\_\_\_\_ times per WEEK MONTH YEAR

☐ **YES, I had trouble staying asleep.**

How often? \_\_\_\_\_ times per WEEK MONTH YEAR

**Since the injury**, did you notice that your sleep became worse?

☐ **NO**      ☐ **YES**

What sleep problems became more noticeable to you? (check all that apply)

☐ I get sleepier during the day.

☐ I get drowsier than I used to when trying to concentrate or work.

☐ I fall asleep when I should not.

☐ It is harder to stay alert during the day.

☐ It is harder to fall asleep at night.

How often? \_\_\_\_\_ times per WEEK MONTH YEAR

☐ I fall asleep much later than I used to.

- ☐ I fall asleep much earlier than I used to.
- ☐ I sleep later in the morning than I used to.
- ☐ I have trouble staying asleep.

How often? \_\_\_\_\_ times per WEEK MONTH YEAR

- ☐ I wake up much earlier in the morning than I used to.
- ☐ When I do sleep, it is fitful or less restful than it used to be.
- ☐ I wake up off and on throughout the night more than I used to.
- ☐ I have more nightmares than I used to.

**Since your injury,** how much do you typically sleep on weeknights (Sun-Thur)? \_\_\_\_\_ HRS

**Since your injury,** how much do you typically sleep on weekend nights (Fri-Sat)? \_\_\_\_\_ HRS

**Since your injury,** at what time do you normally go to bed at night on:

Week nights (Sun-Thur)? \_\_\_\_\_ AM PM (midnight = 12 AM; noon = 12 PM)

Weekends (Fri-Sat)? \_\_\_\_\_ AM PM

**Since your injury,** what time do you typically awaken on:

Weekdays (Mon-Fri)? \_\_\_\_\_ AM PM

Weekends (Sat-Sun)? \_\_\_\_\_ AM PM

**Since your injury,** how long does it typically take you to fall asleep at night?

Week nights (Sun-Thur)? \_\_\_\_\_ MIN HRS

Weekends (Fri-Sat)? \_\_\_\_\_ MIN HRS

**Since your injury,**

at what time of day do you feel sleepiest? \_\_\_\_\_ AM PM

at what time of day do you feel most alert? \_\_\_\_\_ AM PM

how many hours do you need to sleep to feel your best? \_\_\_\_\_

if you get less than \_\_\_\_\_ hours of sleep, you notice impairment in your ability to function at work.

if you get more than \_\_\_\_\_ hours of sleep, you notice impairment in your ability to function at work.

**Since your injury**, do you take more than two daytime naps per month?

☐ **NO**      ☐ **YES**

How many times per week do you nap? \_\_\_\_\_

At what time? \_\_\_\_:\_\_\_\_ AM/PM to \_\_\_\_:\_\_\_\_AM/PM

Do you consider yourself a light, normal, or heavy sleeper?

☐ **LIGHT**      ☐ **NORMAL**      ☐ **HEAVY**

Have you been told or do you think that you snore excessively?

☐ **NO**      ☐ **YES**

Have you ever been diagnosed or treated for sleep apnea or sleep disordered breathing?

☐ **NO**      ☐ **YES**

Is daytime sleepiness currently a problem for you?

☐ **NO**      ☐ **YES**

## **Epworth Sleepiness Scale**

How likely are you to doze off or fall asleep in the following situations, in contrast to feeling just tired?

This refers to your **usual way of life in recent times**. Even if you have not done some of these things recently try to work out how they would have affected you. Use the following scale to choose the most appropriate number for each situation:

0 = would never doze

1 = slight chance of dozing

2 = moderate chance of dozing

3 = high chance of dozing

### **SITUATION**

### **CHANCE OF DOZING**

Sitting and reading	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>
Watching TV	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>
Sitting, inactive in a public place (e.g. a theater or meeting)	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>
As a passenger in a car for an hour without a break	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>
Lying down to rest in the afternoon when circumstances permit	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>
Sitting and talking to someone	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>
Sitting quietly after a lunch without alcohol	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>
In a car, while stopped for a few minutes in the traffic	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>

## DAY OF SCAN INFORMATION QUESTIONNAIRE

SUBJECT #: \_\_\_\_\_

DATE: \_\_\_\_/\_\_\_\_/\_\_\_\_

---

DATE OF BIRTH

\_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_  
day month year

AGE

\_\_\_\_\_ years

HEIGHT

\_\_\_\_\_ ft/inches

WEIGHT

\_\_\_\_\_ lbs

SEX

☐ **MALE**

☐ **FEMALE**

For females only:

When was the start of your last menstrual period?

Be as precise as possible.

Date of period: \_\_\_\_\_

or about \_\_\_\_\_ days ago.

RIGHT or LEFT-HANDED?

☐ **RIGHT**

☐ **LEFT**

☐ **BOTH/NEITHER**

Do you have any problems with reading?

☐ **NO**

☐ **YES**

**EDUCATION:** What is the highest grade or level of school you have completed or the highest degree you have obtained? *Please choose one:*

- ☐ 9th Grade
- ☐ 10th Grade
- ☐ 11th Grade
- ☐ 12th Grade, no diploma
- ☐ High school graduate
- ☐ GED or equivalent
- ☐ Some college, no degree
- ☐ Associate degree: occupational, technical, or vocational program
- ☐ Associate degree: academic program
- ☐ Bachelor's degree (e.g., BA, AB, BS, BBA)
- ☐ Master's degree (e.g., MA, MS, MEng, MEd, MBA)
- ☐ Professional school degree (e.g., MD, DDS, DVM, JD)
- ☐ Doctoral degree (e.g., PhD, EdD)
- ☐ Unknown

Are you currently doing shift work (e.g., working early morning, evening, or night shifts)?

- ☐ **NO**      ☐ **YES**

Do you engage in regular exercise?

- ☐ **NO**      ☐ **YES**

Which sport? \_\_\_\_\_

How many days per week? \_\_\_\_\_

How many minutes per exercise session (on average)? \_\_\_\_\_



## **CAFFEINE USE**

Did you have any caffeine containing products today?

☐ **NO** ☐ **YES**      How much? \_\_\_\_\_

On average, how many cups (=8oz) of caffeinated coffee do you drink per day? \_\_\_\_\_

On average, how many cups (=8oz) of caffeinated tea do you drink per day? \_\_\_\_\_

On average, how many cans of caffeinated soda do you drink per day? \_\_\_\_\_

On average, how many caffeinated sports drinks do you drink per day? \_\_\_\_\_ (brand)

Do you use any other caffeinated products (e.g. Vivarin)?

☐ **NO** ☐ **YES**      Brand? \_\_\_\_\_

How much? \_\_\_\_\_

How often? \_\_\_\_\_

## **NICOTINE AND OTHER SUBSTANCE USE**

Do you currently smoke cigarettes?

☐ **NO**      ☐ **YES**

How many? \_\_\_\_\_ daily / weekly / monthly / yearly (*circle one*)

For how long? \_\_\_\_\_ years \_\_\_\_\_ months

Have you tried to quit?      ☐ **NO**      ☐ **YES**

How many times? \_\_\_\_\_

Have you ever smoked cigarettes in the past?

☐ **NO**      ☐ **YES**

How many? \_\_\_\_\_ daily / weekly / monthly / yearly (*circle one*)

For how long? \_\_\_\_\_ years \_\_\_\_\_ months

When did you quit? \_\_\_\_\_ (approximate date)

Do you currently smoke large cigars?

☐ **NO**      ☐ **YES**

How many? \_\_\_\_\_ daily / weekly / monthly/ yearly (*circle one*)

For how long? \_\_\_\_\_ years \_\_\_\_\_ months

Have you tried to quit?      ☐ **NO**      ☐ **YES**

How many times? \_\_\_\_\_

Have you ever smoked large cigars in the past?

☐ **NO**      ☐ **YES**

How many? \_\_\_\_\_ daily / weekly / monthly / yearly (*circle one*)

For how long? \_\_\_\_\_ years \_\_\_\_\_ months

When did you quit? \_\_\_\_\_ (approximate date)

Do you currently smoke small cigars?

☐ **NO**      ☐ **YES**

How many? \_\_\_\_\_ daily / weekly / monthly/ yearly (*circle one*)

For how long? \_\_\_\_\_ years \_\_\_\_\_ months

Have you tried to quit?      ☐ **NO**      ☐ **YES**

How many times? \_\_\_\_\_

Have you ever smoked small cigars in the past?

☐ **NO**      ☐ **YES**

How many? \_\_\_\_\_ daily / weekly / monthly / yearly (*circle one*)

For how long? \_\_\_\_\_ years \_\_\_\_\_ months

When did you quit? \_\_\_\_\_ (approximate date)

Do you currently smoke cigarillos?

☐ **NO**      ☐ **YES**

How many? \_\_\_\_\_ daily / weekly / monthly / yearly (*circle one*)

For how long? \_\_\_\_\_ years \_\_\_\_\_ months

Have you tried to quit?      ☐ **NO**      ☐ **YES**

How many times? \_\_\_\_\_

Have you ever smoked cigarillos in the past?

☐ **NO**      ☐ **YES**

How many? \_\_\_\_\_ daily / weekly / monthly / yearly (*circle one*)

For how long? \_\_\_\_\_ years \_\_\_\_\_ months

When did you quit? \_\_\_\_\_ (approximate date)

Do you currently use smokeless tobacco, such as dip or chew?

☐ **NO**      ☐ **YES**

About how much/ many? \_\_\_\_\_ daily / weekly / monthly / yearly (*circle one*)

For how long? \_\_\_\_\_ years \_\_\_\_\_ months

Have you tried to quit?      ☐ **NO**      ☐ **YES**

How many times? \_\_\_\_\_

Have you ever used smokeless tobacco in the past?

☐ **NO**      ☐ **YES**

About how much/ many? \_\_\_\_\_ daily / weekly / monthly / yearly (*circle one*)

For how long? \_\_\_\_\_ years \_\_\_\_\_ months

When did you quit? \_\_\_\_\_ (approximate date)

Do you currently use any other nicotine-containing products?

☐ **NO**      ☐ **YES**

Which kind? \_\_\_\_\_

For how long? \_\_\_\_\_ years \_\_\_\_\_ months

How often? \_\_\_\_\_

Have you tried to quit? ☐ **NO** ☐ **YES**

How many times? \_\_\_\_\_

Have you ever used any other kind of nicotine containing products?

☐ **NO** ☐ **YES**

Which kind? \_\_\_\_\_

For how long? \_\_\_\_\_ years \_\_\_\_\_ months

How often? \_\_\_\_\_

Have you tried to quit? ☐ **NO** ☐ **YES**

How many times? \_\_\_\_\_

Are you currently taking diet pills?

☐ **NO** ☐ **YES**

What brand? \_\_\_\_\_

For how long? \_\_\_\_\_ years \_\_\_\_\_ months \_\_\_\_\_ days

How much? \_\_\_\_\_

How often? \_\_\_\_\_ daily / weekly / monthly / yearly (*circle one*)

Are you currently taking any medications, vitamins, or supplements?

☐ **NO** ☐ **YES**

Please list:

Name: \_\_\_\_\_

Dosage: \_\_\_\_\_

Name: \_\_\_\_\_

Dosage: \_\_\_\_\_

Name: \_\_\_\_\_

Dosage: \_\_\_\_\_

Name: \_\_\_\_\_

Dosage: \_\_\_\_\_

Have you ever used marijuana?

☐ **NO** ☐ **YES**

At what age did you start? \_\_\_\_\_

On approximately how many occasions have you used marijuana? \_\_\_\_\_

At what age did you quit? \_\_\_\_\_

In the past year, did you use marijuana?

☐ **NO**      ☐ **YES**

How often? \_\_\_\_\_ daily / weekly / monthly / yearly (*circle one*)

Do you currently use marijuana?

☐ **NO**      ☐ **YES**

How often? \_\_\_\_\_ daily / weekly / monthly / yearly (*circle one*)

Have you tried to quit?      ☐ **NO**      ☐ **YES**

How many times? \_\_\_\_\_

Have you ever used any other street drugs?

☐ **NO**      ☐ **YES**

What? \_\_\_\_\_

How much? \_\_\_\_\_

How often? \_\_\_\_\_

In the past year, did you use any other street drugs?

☐ **NO**      ☐ **YES**

What? \_\_\_\_\_

How much? \_\_\_\_\_

How often? \_\_\_\_\_

Do you currently use any other street drugs?

☐ **NO**      ☐ **YES**

What? \_\_\_\_\_

How much? \_\_\_\_\_

How often? \_\_\_\_\_

Do you drink alcohol?

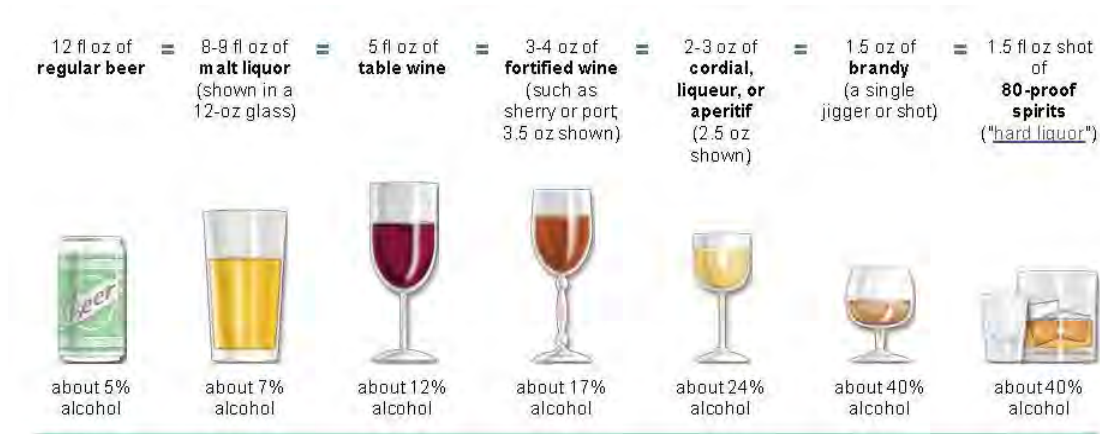
☐ **NO**      ☐ **YES**

How many times per month? \_\_\_\_\_

Using the below chart, what is the average number of drinks you consume on these occasions? \_\_\_\_\_

Using the chart, what is the largest number of drinks you consume? \_\_\_\_\_

One drink equals:



## **SLEEP HABITS**

How much sleep did you get last night? \_\_\_\_\_ HRS

What time do you typically awaken on:

Weekdays (Mon-Fri)? \_\_\_\_\_ AM PM (midnight = 12 AM; noon = 12 PM)

Weekends (Sat-Sun)? \_\_\_\_\_ AM PM

How long does it typically take you to fall asleep at night?

Week nights (Sun-Thur) \_\_\_\_\_ MIN HRS (midnight = 12 AM; noon = 12 PM)

Weekends (Fri-Sat) \_\_\_\_\_ MIN HRS

At what time do you normally go to bed at night on:

Week nights (Sun-Thur)? \_\_\_\_\_ AM PM (midnight = 12 AM; noon = 12 PM)

Weekends (Fri-Sat)? \_\_\_\_\_ AM PM

Did you ever experience sleep problems?

☐ **NO**      ☐ **YES, I have trouble falling asleep.**

How often? \_\_\_\_\_ times per WEEK MONTH YEAR

☐ **YES, I have trouble staying asleep.**

How often? \_\_\_\_\_ times per WEEK MONTH YEAR

At what time of day do you feel sleepiest? \_\_\_\_\_ AM PM

At what time of day do you feel most alert? \_\_\_\_\_ AM PM

How many hours do you need to sleep to feel your best? \_\_\_\_\_

If you get less than \_\_\_\_\_ hours of sleep, you notice impairment in your ability to function at work.

If you get more than \_\_\_\_\_ hours of sleep, you notice impairment in your ability to function at work.

Do you take more than two daytime naps per month?

☐ **NO**      ☐ **YES**

How many times per week do you nap? \_\_\_\_\_

At what time? \_\_\_\_:\_\_\_\_ AM/PM to \_\_\_\_:\_\_\_\_ AM/PM

Do you consider yourself a light, normal, or heavy sleeper?

☐ **LIGHT**      ☐ **NORMAL**      ☐ **HEAVY**

Have you been told or do you think that you snore excessively?

☐ **NO**      ☐ **YES**

Have you ever been diagnosed or treated for sleep apnea or sleep disordered breathing?

☐ **NO**      ☐ **YES**

Is daytime sleepiness currently a problem for you?

☐ **NO**      ☐ **YES**



## **Epworth Sleepiness Scale**

How likely are you to doze off or fall asleep in the following situations, in contrast to feeling just tired?

This refers to your **usual way of life in recent times**. Even if you have not done some of these things recently try to work out how they would have affected you. Use the following scale to choose the most appropriate number for each situation:

0 = would never doze

1 = slight chance of dozing

2 = moderate chance of dozing

3 = high chance of dozing

### **SITUATION**

### **CHANCE OF DOZING**

Sitting and reading	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>
Watching TV	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>
Sitting, inactive in a public place (e.g. a theater or meeting)	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>
As a passenger in a car for an hour without a break	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>
Lying down to rest in the afternoon when circumstances permit	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>
Sitting and talking to someone	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>
Sitting quietly after a lunch without alcohol	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>
In a car, while stopped for a few minutes in the traffic	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>

Session (1 or 2) \_\_\_\_\_ ID# \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_ AM  
PM

### **PITTSBURGH SLEEP QUALITY INDEX**

#### **INSTRUCTIONS:**

The following questions relate to your usual sleep habits during the past month only. Your answers should indicate the most accurate reply for the majority of days and nights in the past month. Please answer all questions.

1. During the past month, what time have you usually gone to bed at night?

BED TIME \_\_\_\_\_

2. During the past month, how long (in minutes) has it usually taken you to fall asleep each night?

NUMBER OF MINUTES \_\_\_\_\_

3. During the past month, what time have you usually gotten up in the morning?

GETTING UP TIME \_\_\_\_\_

4. During the past month, how many hours of actual sleep did you get at night? (This may be different than the number of hours you spent in bed.)

HOURS OF SLEEP PER NIGHT \_\_\_\_\_

***For each of the remaining questions, check the one best response. Please answer all questions.***

5. During the past month, how often have you had trouble sleeping because you . . .

- a) Cannot get to sleep within 30 minutes

Not during the past month _____	Less than once a week _____	Once or twice a week _____	Three or more times a week _____
------------------------------------	--------------------------------	-------------------------------	-------------------------------------

- b) Wake up in the middle of the night or early morning

Not during the past month _____	Less than once a week _____	Once or twice a week _____	Three or more times a week _____
------------------------------------	--------------------------------	-------------------------------	-------------------------------------

- c) Have to get up to use the bathroom

Not during the past month _____	Less than once a week _____	Once or twice a week _____	Three or more times a week _____
------------------------------------	--------------------------------	-------------------------------	-------------------------------------

d) Cannot breathe comfortably

Not during the past month_____	Less than once a week_____	Once or twice a week_____	Three or more times a week_____
-----------------------------------	-------------------------------	------------------------------	------------------------------------

e) Cough or snore loudly

Not during the past month_____	Less than once a week_____	Once or twice a week_____	Three or more times a week_____
-----------------------------------	-------------------------------	------------------------------	------------------------------------

f) Feel too cold

Not during the past month_____	Less than once a week_____	Once or twice a week_____	Three or more times a week_____
-----------------------------------	-------------------------------	------------------------------	------------------------------------

g) Feel too hot

Not during the past month_____	Less than once a week_____	Once or twice a week_____	Three or more times a week_____
-----------------------------------	-------------------------------	------------------------------	------------------------------------

h) Had bad dreams

Not during the past month_____	Less than once a week_____	Once or twice a week_____	Three or more times a week_____
-----------------------------------	-------------------------------	------------------------------	------------------------------------

i) Have pain

Not during the past month_____	Less than once a week_____	Once or twice a week_____	Three or more times a week_____
-----------------------------------	-------------------------------	------------------------------	------------------------------------

j) Other reason(s), please describe\_\_\_\_\_

How often during the past month have you had trouble sleeping because of this?

Not during the past month_____	Less than once a week_____	Once or twice a week_____	Three or more times a week_____
-----------------------------------	-------------------------------	------------------------------	------------------------------------

6. During the past month, how would you rate your sleep quality overall?

Very good \_\_\_\_\_

Fairly good \_\_\_\_\_

Fairly bad \_\_\_\_\_

Very bad \_\_\_\_\_

7. During the past month, how often have you taken medicine to help you sleep (prescribed or "over the counter")?

Not during the past month_____	Less than once a week_____	Once or twice a week_____	Three or more times a week_____
-----------------------------------	-------------------------------	------------------------------	------------------------------------

8. During the past month, how often have you had trouble staying awake while driving, eating meals, or engaging in social activity?

Not during the past month_____	Less than once a week_____	Once or twice a week_____	Three or more times a week_____
-----------------------------------	-------------------------------	------------------------------	------------------------------------

9. During the past month, how much of a problem has it been for you to keep up enough enthusiasm to get things done?

No problem at all	_____
Only a very slight problem	_____
Somewhat of a problem	_____
A very big problem	_____

10. Do you have a bed partner or room mate?

No bed partner or room mate	_____
Partner/room mate in other room	_____
Partner in same room, but not same bed	_____
Partner in same bed	_____

If you have a room mate or bed partner, ask him/her how often in the past month you have had . . .

- a) Loud snoring

Not during the past month_____	Less than once a week_____	Once or twice a week_____	Three or more times a week_____
-----------------------------------	-------------------------------	------------------------------	------------------------------------

- b) Long pauses between breaths while asleep

Not during the past month_____	Less than once a week_____	Once or twice a week_____	Three or more times a week_____
-----------------------------------	-------------------------------	------------------------------	------------------------------------

- c) Legs twitching or jerking while you sleep

Not during the past month_____	Less than once a week_____	Once or twice a week_____	Three or more times a week_____
-----------------------------------	-------------------------------	------------------------------	------------------------------------

d) Episodes of disorientation or confusion during sleep

Not during the past month_____	Less than once a week_____	Once or twice a week_____	Three or more times a week_____
-----------------------------------	-------------------------------	------------------------------	------------------------------------

e) Other restlessness while you sleep; please describe\_\_\_\_\_

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Not during the past month_____	Less than once a week_____	Once or twice a week_____	Three or more times a week_____
-----------------------------------	-------------------------------	------------------------------	------------------------------------

## **Curriculum Vitae**

**DATE PREPARED:** September 2, 2015

**NAME:** WILLIAM DALE (SCOTT) KILLGORE

### **CHRONOLOGY OF EDUCATION**

8/83 - 5/85 A.A. (Liberal Arts), San Antonio College  
8/83 - 5/85 A.A.S (Radio-TV-Film), San Antonio College  
8/85 - 5/90 B.A. (Psychology), *Summa cum laude* with Distinction, University of New Mexico  
8/90 - 5/92 M.A. (Clinical Psychology), Texas Tech University  
8/92 - 8/96 Ph.D. (Clinical Psychology), Texas Tech University

Dissertation Title: *Development and validation of a new instrument for the measurement of transient mood states: The facial analogue mood scale (FAMS)*. Lubbock, TX: Texas Tech University;1995. Advisor: Bill Locke, Ph.D.

### **POST-DOCTORAL TRAINING**

8/95 - 7/96 Predoctoral Fellow, Clinical Psychology, Yale School of Medicine  
8/96 - 7/97 Postdoctoral Fellow, Clinical Neuropsychology, University of OK Health Sciences Center  
8/97 - 7/99 Postdoctoral Fellow, Clinical Neuropsychology, University of Pennsylvania Medical School  
7/99 - 9/00 Research Fellow, Neuroimaging, McLean Hospital/ Harvard Medical School  
9/13 - 5/14 Certificate in Applied Biostatistics, Harvard Medical School

### **LICENSURE/CERTIFICATION**

2001 - Licensed Psychologist

## **CHRONOLOGY OF EMPLOYMENT**

### ***Academic Appointments***

10/00 - 8/02 Instructor in Psychology in the Department of Psychiatry  
Harvard Medical School, Boston, MA

9/02 - 7/07 Clinical Instructor in Psychology in the Department of Psychiatry  
Harvard Medical School, Boston, MA

8/07 - 10/10 Instructor in Psychology in the Department of Psychiatry  
Harvard Medical School, Boston, MA

4/08- Faculty Affiliate, Division of Sleep Medicine  
Harvard Medical School, Boston, MA

10/10 - 10/12 Assistant Professor of Psychology in the Department of Psychiatry  
Harvard Medical School, Boston, MA

10/12 - 6/14 Associate Professor of Psychology in the Department of Psychiatry  
Harvard Medical School, Boston, MA

7/14- Associate Professor of Psychology in the Department of Psychiatry (part-time)  
Harvard Medical School, Boston, MA

7/14- Professor of Psychiatry—TE  
University of Arizona College of Medicine, Tucson, AZ

7/14- Professor of Medical Imaging—Non TE  
University of Arizona College of Medicine, Tucson, AZ

9/14 Professor of Psychology—Non TE  
University of Arizona College of Science, Tucson, AZ

### ***Hospital/Clinical/Institutional Appointments***

10/00 - 8/02 Assistant Research Psychologist, McLean Hospital, Belmont, MA

8/02 - 7/04 Research Psychologist, Department of Behavioral Biology, Walter Reed Army Institute of Research, Silver Spring, MD

7/04 - 10/07 Chief, Neurocognitive Performance Branch, Walter Reed Army Institute of Research, Silver Spring, MD

10/07 - 3/10 Chief Psychologist, GovSource, Inc., U.S. Department of Defense (DoD) Contractor

8/08 Consulting Psychologist, The Brain Institute, University of Utah

9/02 - 4/05 Special Volunteer, National Institute on Deafness and Other Communication Disorders (NIDCD), National Institutes of Health (NIH), Bethesda, MD

9/02 - 7/07 Research Consultant, McLean Hospital, Belmont, MA

8/05 - 5/06 Neuropsychology Postdoctoral Research Program Training Supervisor, Walter Reed Hospital, Washington, DC

8/07 - Research Psychologist, McLean Hospital, Belmont, MA

7/11 - 6/14 Director, Social Cognitive, and Affective Neuroscience (SCAN) Laboratory, McLean Hospital, Belmont, MA

7/14- Director, Social, Cognitive, and Affective Neuroscience (SCAN) Laboratory, University of Arizona, Tucson, AZ

### ***Military Positions***

11/01 - 8/02 First Lieutenant, Medical Service Corps, United States Army Reserve (USAR)

8/02 - 7/05	Captain, Medical Service Corps, United States Army-Active Regular Army (RA)
8/05 - 10/07	Major, Medical Service Corps, United States Army-Active Regular Army (RA)
10/07 - 7/12	Major, Medical Service Corps, United States Army Reserve (USAR)
7/12 -	Lieutenant Colonel, Medical Service Corps, United States Army Reserve (USAR)

## **HONORS AND AWARDS**

1990	Outstanding Senior Honors Thesis in Psychology, University of New Mexico
1990-1995	Maxey Scholarship in Psychology, Texas Tech University
2001	Rennick Research Award, Co-Author, International Neuropsychological Society
2002	Honor Graduate, AMEDD Officer Basic Course, U.S. Army Medical Department Center and School
2002	Lynch Leadership Award Nominee, AMEDD Officer Basic Course, U.S. Army Medical Department Center and School
2003	Outstanding Research Presentation Award, 2003 Force Health Protection Conference, U.S. Army Center for Health Promotion and Preventive Medicine
2003	Who's Who in America
2004	Who's Who in Medicine and Healthcare
2005	Edward L. Buescher Award for Excellence in Research by a Young Scientist, Walter Reed Army Institute of Research (WRAIR) Association
2009	Merit Poster Award, International Neuropsychological Society
2009	Outstanding Research Presentation Award, 2009 Force Health Protection Conference, U.S. Army Center for Health Promotion and Preventive Medicine
2010	Best Paper Award, Neuroscience, 27 <sup>th</sup> U.S. Army Science Conference
2011	Published paper included in <i>Best of Sleep Medicine 2011</i>
2011	Blue Ribbon Finalist, 2011 Top Poster Award in Clinical and Translational Research, Society of Biological Psychiatry
2012	Defense Advance Research Projects Agency (DARPA) Young Faculty Award in Neuroscience
2014	Blue Ribbon Finalist, 2014 Top Poster Award in Basic Neuroscience, Society of Biological Psychiatry
2014	Harvard Medical School Excellence in Mentoring Award Nominee
2014	AASM Young Investigator Award (co-author), Honorable Mention, American Academy of Sleep Medicine

## **SERVICE/OUTREACH**

### ***Local/State Service/Outreach***

2003	Scientific Review Committee, Walter Reed Army Institute of Research (WRAIR), Silver Spring, MD
2005	Scientific Review Committee, Walter Reed Army Institute of Research (WRAIR), Silver Spring, MD
2012-	McLean Hospital Research Committee, McLean Hospital, Belmont, MA

### ***National/International Service/Outreach***



2004	University of Alabama, Clinical Nutrition Research Center (UAB CNRC) Pilot/Feasibility Study Program Review Committee
2006	U.S. Small Business Administration, Small Business Technology Transfer (STTR) Program Review Committee
2006	Cognitive Performance Assessment Program Area Steering Committee, U.S. Army Military Operational Medicine Research Program Funding Panel
2007	Cognitive Performance Assessment Program Area Steering Committee, U.S. Army Military Operational Medicine Research Program Funding Panel
2008	United States Army Medical Research and Materiel Command (USAMRMC) Congressionally Directed Medical Research Programs (CDMRP) Extramural Grant Review Panel
2009	NIH-CSR Brain Disorders and Clinical Neuroscience N02 Member Study Conflict Section Review Panel
2009	Sleep Physiology and Fatigue Interventions Program Area Steering Committee, U.S. Army Military Operational Medicine Research Program
2009	Scotland, UK, Biomedical and Therapeutic Research Committee, Grant Reviewer
2010	Canada, Social Sciences and Humanities Research Council of Canada, Grant Reviewer
2011	National Science Foundation (NSF) Grant Reviewer
2011-	National Network of Depression Centers (NNDC), Military Task Group
2011	Israel, Israel Science Foundation (ISF), Grant Reviewer
2011	Scientific Review Committee, US Army Institute of Environmental Medicine (USARIEM)
2012	National Science Foundation (NSF) Grant Reviewer
2012-	American Academy of Sleep Medicine, Member
2013	Israel, Israel Science Foundation (ISF), Grant Reviewer
2014-	Organization for Human Brain Mapping, Member
2015-	Human Affectome Project Advisory Board Member

### ***Departmental Committees***

2006	Chair, Undergraduate Honors Thesis Committee, Jessica Richards, Department of Psychology, University of Maryland, Baltimore County, MD
2012-	Member, Research Committee, McLean Hospital, Belmont, MA
2014	Psychiatry Senior Research Manager Candidate Search Committee, Department of Psychiatry, University of Arizona, Tucson, AZ
2014-2015	Member, Faculty Search Committee, Department of Psychology, University of Arizona, Tucson, AZ.
2014-2015	Member, Comprehensive Examination Committee, Natalie Bryant, Department of Psychology, University of Arizona, Tucson, AZ
2014-2015	Chair/Research Faculty Mentor, Undergraduate Honors Thesis Committee, Haley Kent, Department of Biochemistry, University of Arizona, Tucson, AZ
2014-	Member, Psychiatry Research Investigator Committee, Department of Psychiatry, University of Arizona, Tucson, AZ.
2015	Member, Dissertation Committee, Ryan S. Smith, Ph.D., Department of Psychology, University of Arizona, Tucson AZ.
2015-	Member, Mentoring Committee, Department of Psychiatry, University of Arizona, Tucson, AZ

### ***University Committees***

2006	External Member, Doctoral Thesis Committee, Belinda J. Liddle, Ph.D., University of Sydney, Australia
2014	Ad Hoc Member, Interview Committee for Defense and Security Research Institute Director Position, University of Arizona, Tucson, AZ.
2014-	Member, Mechanisms of Emotion, Social Relationships, and Health Interdisciplinary Developing Research Program, Clinical and Translational Science Institute, BIO5, University of Arizona, Tucson, AZ
2015	Vice President's Executive Committee for Defense and Security Strategic Planning, University of Arizona, Tucson, AZ
2015	Imaging Excellence Cluster Hire Search Committee, University of Arizona, Tucson, AZ
2015	MRI Operations Committee, University of Arizona, Tucson, AZ

### ***Editorial Board Membership***

2009-	Editorial Board Member, International Journal of Eating Disorders
2012-	Editorial Board Member, Dataset Papers in Neuroscience
2012-	Editorial Board Member, Dataset Papers in Psychiatry
2012-	Editor, Journal of Sleep Disorders: Treatment and Care

### ***Ad Hoc Journal Reviewer***

2001-2012	Reviewer, Psychological Reports
2001-2012	Reviewer, Perceptual and Motor Skills
2002	Reviewer, American Journal of Psychiatry
2002-2013	Reviewer, Biological Psychiatry
2003	Reviewer, Clinical Neurology and Neurosurgery
2004, 2013	Reviewer, NeuroImage
2004-2006	Reviewer, Neuropsychologia
2004	Reviewer, Journal of Neuroscience
2004	Reviewer, Consciousness and Cognition
2005	Reviewer, Experimental Brain Research
2005	Reviewer, Schizophrenia Research
2005-2012	Reviewer, Archives of General Psychiatry
2005	Reviewer, Behavioral Brain Research
2005-2009	Reviewer, Human Brain Mapping
2005-2013	Reviewer, Psychiatry Research: Neuroimaging
2006	Reviewer, Journal of Abnormal Psychology
2006	Reviewer, Psychopharmacology
2006	Reviewer, Developmental Science
2006	Reviewer, Acta Psychologica
2006, 2015	Reviewer, Neuroscience Letters
2006-2014	Reviewer, Journal of Sleep Research
2006-2013	Reviewer, Physiology and Behavior
2006-2014	Reviewer, SLEEP
2007	Reviewer, Journal of Clinical and Experimental Neuropsychology

2008	Reviewer, European Journal of Child and Adolescent Psychiatry
2008	Reviewer, Judgment and Decision Making
2008-2010	Reviewer, Aviation, Space, & Environmental Medicine
2008	Reviewer, Journal of Psychophysiology
2008	Reviewer, Brazilian Journal of Medical and Biological Research
2008	Reviewer, The Harvard Undergraduate Research Journal
2008	Reviewer, Bipolar Disorders
2008-2013	Reviewer, Chronobiology International
2008	Reviewer, International Journal of Obesity
2009	Reviewer, European Journal of Neuroscience
2009-2015	Reviewer, International Journal of Eating Disorders
2009	Reviewer, Psychophysiology
2009	Reviewer, Traumatology
2009	Reviewer, Clinical Medicine: Therapeutics
2009	Reviewer, Acta Pharmacologica Sinica
2009	Reviewer, Collegium Antropologicum
2009	Reviewer, Journal of Psychopharmacology
2009-2014	Reviewer, Obesity
2009	Reviewer, Scientific Research and Essays
2009	Reviewer, Child Development Perspectives
2009-2010	Reviewer, Personality and Individual Differences
2009-2010	Reviewer, Noise and Health
2009-2010	Reviewer, Sleep Medicine
2010	Reviewer, Nature and Science of Sleep
2010	Reviewer, Psychiatry and Clinical Neurosciences
2010	Reviewer, Learning and Individual Differences
2010	Reviewer, Cognitive, Affective, and Behavioral Neuroscience
2010	Reviewer, BMC Medical Research Methodology
2010-2011	Reviewer, Journal of Adolescence
2010-2012	Reviewer, Brain Research
2011	Reviewer, Brain
2011	Reviewer, Social Cognitive and Affective Neuroscience
2011	Reviewer, Journal of Traumatic Stress
2011	Reviewer, Social Neuroscience
2011-2014	Reviewer, Brain and Cognition
2011	Reviewer, Frontiers in Neuroscience
2011-2012	Reviewer, Sleep Medicine Reviews
2012	Reviewer, Journal of Experimental Psychology: General
2012	Reviewer, Ergonomics
2012	Reviewer, Behavioral Sleep Medicine
2012	Reviewer, Neuropsychology
2012	Reviewer, Emotion
2012	Reviewer, JAMA
2012	Reviewer, BMC Neuroscience
2012-2015	Reviewer, Cognition and Emotion
2012	Reviewer, Journal of Behavioral Decision Making
2012	Reviewer, Psychosomatic Medicine
2012-2014	Reviewer, PLoS One

2012	Reviewer, American Journal of Critical Care
2012-2014	Reviewer, Journal of Sleep Disorders: Treatment and Care
2013	Reviewer, Experimental Psychology
2013	Reviewer, Clinical Interventions in Aging
2013	Reviewer, Frontiers in Psychology
2013	Reviewer, Brain Structure and Function
2013	Reviewer, Appetite
2013	Reviewer, JAMA Psychiatry
2014	Reviewer, Acta Psychologica
2014	Reviewer, Neurology
2014	Reviewer, Applied Neuropsychology: Child
2014-2015	Reviewer, Journal of Applied Psychology
2015	Reviewer, Early Childhood Research Quarterly
2015	Reviewer, Behavioral Neuroscience

## **PUBLICATIONS/CREATIVE ACTIVITY**

### ***Refereed Journal Articles***

1. **Killgore WD.** The Affect Grid: a moderately valid, nonspecific measure of pleasure and arousal. Psychol Rep. 83(2):639-42, 1998.
2. **Killgore WD.** Empirically derived factor indices for the Beck Depression Inventory. Psychol Rep. 84(3 Pt 1):1005-13, 1999.
3. **Killgore WD.** Affective valence and arousal in self-rated depression and anxiety. Percept Mot Skills. 89(1):301-4, 1999.
4. **Killgore WD, Adams RL.** Prediction of Boston Naming Test performance from vocabulary scores: preliminary guidelines for interpretation. Percept Mot Skills. 89(1):327-37, 1999.
5. **Killgore WD, Gangestad SW.** Sex differences in asymmetrically perceiving the intensity of facial expressions. Percept Mot Skills. 89(1):311-4, 1999.
6. **Killgore WD.** The visual analogue mood scale: can a single-item scale accurately classify depressive mood state? Psychol Rep. 85(3 Pt 2):1238-43, 1999.
7. **Killgore WD, DellaPietra L, Casasanto DJ.** Hemispheric laterality and self-rated personality traits. Percept Mot Skills. 89(3 Pt 1):994-6, 1999.
8. **Killgore WD, Glosser G, Casasanto DJ, French JA, Alsop DC, Detre JA.** Functional MRI and the Wada test provide complementary information for predicting post-operative seizure control. Seizure. 8(8):450-5, 1999.
9. **Killgore WD.** Evidence for a third factor on the Positive and Negative Affect Schedule in a college student sample. Percept Mot Skills. 90(1):147-52, 2000.

10. **Killgore WD**, Dellapietra L. Item response biases on the logical memory delayed recognition subtest of the Wechsler Memory Scale-III. *Psychol Rep.* 86(3 Pt 1):851-7, 2000.
11. **Killgore WD**, Casasanto DJ, Yurgelun-Todd DA, Maldjian JA, Detre JA. Functional activation of the left amygdala and hippocampus during associative encoding. *Neuroreport.* 11(10):2259-63, 2000.
12. Yurgelun-Todd DA, Gruber SA, Kanayama G, **Killgore WD**, Baird AA, Young AD. fMRI during affect discrimination in bipolar affective disorder. *Bipolar Disord.* 2(3 Pt 2):237-48, 2000.
13. **Killgore WD**. Sex differences in identifying the facial affect of normal and mirror-reversed faces. *Percept Mot Skills.* 91(2):525-30, 2000.
14. **Killgore WD**, DellaPietra L. Using the WMS-III to detect malingering: empirical validation of the rarely missed index (RMI). *J Clin Exp Neuropsychol.* 22(6):761-71, 2000.
15. **Killgore WD**. Academic and research interest in several approaches to psychotherapy: a computerized search of literature in the past 16 years. *Psychol Rep.* 87(3 Pt 1):717-20, 2000.
16. Maldjian JA, Detre JA, **Killgore WD**, Judy K, Alsop D, Grossman M, Glosser G. Neuropsychologic performance after resection of an activation cluster involved in cognitive memory function. *AJR Am J Roentgenol.* 176(2):541-4, 2001.
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20. **Killgore WD**. Laterality of lesions and trait-anxiety on working memory performance. *Percept Mot Skills.* 94(2):551-8, 2002.
21. **Killgore WD**, Cupp DW. Mood and sex of participant in perception of happy faces. *Percept Mot Skills.* 95(1):279-88, 2002.
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118. Cui, J, Tkachenko, O, Gogel, H, Kipman, M, Preer, LA, Weber, M, Divatia, SC, Demers, LA, Olson, EA, Buchholz, JL, Bark, JS, Rosso, IM, Rauch, SL, & **Killgore, WD**. Microstructure of frontoparietal connections predicts individual resistance to sleep deprivation. *NeuroImage*, 106, 123-133, 2015.
119. Brennan, BP, Tkachenko, O, Schwab, ZJ, Juelich, RJ, Ryan, EM, Athey, AJ, Pope, HG, Jenike, MA, Baker, JT, **Killgore, WD**, Hudson, JI, Jensen, JE, & Rauch, SL. An examination of rostral anterior cingulate cortex function and neurochemistry in obsessive-compulsive disorder. *Neuropsychopharmacology*, 40, 1866-1876, 2015.
120. Alkozei, A, & **Killgore WD**. Emotional intelligence is associated with reduced insula responses to angry faces. *NeuroReport*, 26, 567-571, 2015.
121. Olson, EA, Weber, M, Rauch, SL, & **Killgore, WD**. Daytime sleepiness is associated with reduced integration of temporally distant outcomes on the Iowa Gambling Task. *Behavioral Sleep Medicine* (in press).
122. Olson, EA, Rosso, IM, Demers, LA, Divatia, S., & **Killgore, WD**. Sex differences in psychological factors associated with social discounting. *Journal of Behavioral Decision Making* (in press).
123. Alkozei, A, Schwab, ZJ, & **Killgore, WD**. The role of emotional intelligence during an emotionally difficult decision-making task. *Journal of Nonverbal Behavior* (in press).
124. **Killgore, WD**, Vanuk, JR, Knight, SA, Markowski, SM, Pisner, D, Shane B, Fridman, A, & Alkozei, A. Daytime sleepiness is associated with altered resting thalamocortical connectivity. *NeuroReport* (in press).
125. Mundy, EA, Weber, M, Rauch, SL, **Killgore, WD**, Simon, NM, Pollack, MH, & Rosso, IM. Adult anxiety disorders in relation to trait anxiety and perceived stress in childhood. *Psychological Reports* (in press).
126. Freed, MC, Novak, LA, **Killgore, WD**, Rauch, S, Koehlmoos, TP, Ginsberg, JP, Krupnick, J, Rizzo, AS, Andrews, A, & Engle, CC. IRB and research regulatory delays within the military healthcare setting: Do they really matter? And if so, why and for whom? *American Journal of Bioethics* (in press).

### ***Book Chapters/Editorials***

1. **Killgore, WD**. Cortical and limbic activation during visual perception of food. In Dube, L,

Bechara, A, Dagher, A, Drewnowski, A, Lebel, J, James, P, & Yada, R. (Eds), Obesity Prevention: The Role of Brain and Society on Individual Behavior. Elsevier, Boston, 2010, pp. 57-71.

2. **Killgore, WD.** Asleep at the trigger: Warfighter judgment and decision-making during prolonged wakefulness. In Bartone, P. (Ed), Applying Research Psychology to Improve Performance and Policy. 2010, pp. 59-77.
3. **Killgore, WD.** Effects of Sleep Deprivation on Cognition. In Kerkhof, G. & Van Dongen, H. Progress in Brain Research: Sleep and Cognition. Elsevier, B.V. New York, 2010, pp. 105-129.
4. **Killgore, WD.** Caffeine and other alerting agents. In Thorpy, M. & Billiard, M. (Eds), Sleepiness: Causes, Consequences, Disorders and Treatment. Cambridge University Press, UK, 2011, pp. 430-443.
5. **Killgore WD.** Priorities and challenges for caffeine research: Energy drinks, PTSD, and withdrawal reversal. The Experts Speak Column, J Caffeine Res, 1, 11-12, 2011.
6. **Killgore, WD.** Odor identification ability predicts executive function deficits following sleep deprivation. In Lee-Chiong, T (Ed), Best of Sleep Medicine 2011. National Jewish Health, Denver CO, 2011, pp. 31-33.
7. **Killgore, WD.** Socio-emotional and neurocognitive effects of sleep loss. In Matthews, G. (Ed), Handbook of Operator Fatigue. Ashgate, London UK, 2012, pp. 227-243.
8. **Killgore, WD.** Sleepless nights and bulging waistlines (Editorial). Journal of Sleep Disorders: Treatment and Care, 1(1), doi: [10.4172/jsdtc.1000e101](https://doi.org/10.4172/jsdtc.1000e101), 2012.
9. **Killgore, WD, & Penetar, DM.** Sleep and Military Operational Effectiveness. In Kushida, CA (Ed), The Encyclopedia of Sleep, 2013, vol. 1, pp. 311-319. Academic Press, Waltham, MA.
10. **Killgore, WD, Weiner, MR, & Schwab, ZJ.** Sleep deprivation, personality, and psychopathic changes. In Kushida, CA (Ed), The Encyclopedia of Sleep, 2013, vol. 1, pp. 264-271. Academic Press, Waltham, MA.
11. Schoenberg, MR, & **Killgore, WD.** Psychologic and Psychiatric Assessment. In Kushida, CA (Ed), The Encyclopedia of Sleep, 2013, vol. 2, pp. 23-26. Academic Press, Waltham, MA.
12. **Killgore, WD.** Sleep loss and performance. In Moore, BA, & Barnett, JE (Eds), Military Psychologists' Desk Reference, 2013, pp. 241-246. Oxford University Press, New York.
13. Weber, M., & **Killgore, WD.** What are the emerging therapeutic uses of bright light therapy for neurological disorders? (Editorial). Future Neurology, 8, 495-497, 2013.
14. **Killgore WD & Weber, M.** Sleep deprivation and cognitive performance. In Bianchi, M (Ed), Sleep Deprivation and Disease: Effects on the Body, Brain and Behavior, 2014, pp. 209-229. Springer, New York.

15. **Killgore, WD.** Sleep deprivation and behavioral risk taking. In Watson, RR, Sleep Modulation by Obesity, Diabetes, Age and Diet, 2015, pp. 279-287. Elsevier, San Diego, CA.

### ***Published U.S. Government Technical Reports***

1. **Killgore, WD,** Estrada, A, Rouse, T, Wildzunas, RM, Balkin, TJ. Sleep and performance measures in soldiers undergoing military relevant training. USAARL Report No. 2009-13. June, 2009.
2. Kelley, AM, **Killgore, WD,** Athy, JR, Dretsch, M. Risk propensity, risk perception, and sensation seeking in U.S. Army Soldiers: A preliminary study of a risk assessment battery. USAARL Report No. 2010-02. DTIC #: ADA511524. October, 2009.

### **WORKS IN PROGRESS**

1. **Killgore, WD,** Sonis, LA, Rosso, IM, and Rauch, SL. Emotional intelligence partially mediates the association between anxiety sensitivity and anxiety symptoms. Psychological Reports (under revision).
2. **Killgore, WD,** Olson, EA, Weber, M, Rauch, SL, & Nickerson, LD. Emotional intelligence is associated with synchronized resting state activity between emotion regulation and interoceptive experience networks. NeuroImage (submitted).
3. Smith, R, **Killgore, WD,** & Lane, RD. A reconceptualization of emotional intelligence based on neural systems. Behavioral and Brain Sciences (submitted).
4. Alkozei, A, & **Killgore, WD.** Gratitude and wellbeing: A review and proposed model. Journal of Happiness Studies (submitted).
5. **Killgore, WD.** Individual differences in rested activation of the ventral striatum predicts overeating during sleep deprivation. (in preparation).
6. **Killgore, WD,** Tkachenko, O, Rauch, SL, & Nickerson, LD. Multimodal neuroimaging at rested baseline predicts resistance to overnight sleep deprivation. (in preparation).
7. Alkozei, A, & **Killgore, WD.** Exposure to blue wavelength light suppresses anterior cingulate cortex activation in response to uncertainty during anticipation of emotional stimuli. (in preparation).
8. Chaumet, G, **Killgore WD,** & Rabat, A. Performance self-estimation and decision-making: an new task (GoPT) for exploring aspects of risk taking. (in preparation).
9. Pisner, DA, Smith, R, Alkozei, A, Klimova, A, & **Killgore, WD.** White matter microstructural correlates of an ability measure of emotional intelligence. (in preparation).

10. Sneider, JT, Jensen, JE, Silveri, MM, & **Killgore, WD**. Prefrontal GABA predicts resistance to sleep deprivation. (in preparation).
11. Weber, M, **Killgore WD**, and Rauch, SL. Regionally specific alterations in network organization following psychological trauma and post-traumatic stress disorder. (in preparation).
12. Weber, M, & **Killgore, WD**. Functional brain network organization in relation to self-reported habitual sleep. (in preparation).
13. Weber, M, & **Killgore WD**. Sleep disturbance following traumatic brain injury—a critical review. (in preparation).
14. **Killgore, WD**. Neural correlates of healthy food and activity decisions. (in preparation).

## CONFERENCES/SCHOLARLY PRESENTATIONS

### *Colloquia*

- |      |   |
|------|---|
| 2000 | <i>The Neurobiology of Emotion in Children</i> , McLean Hospital, Belmont, MA [ <i>Invited Lecture</i> ]  |
| 2001 | <i>The Neurobiology of Emotion in Children and Adolescents</i> , McLean Hospital, Belmont, MA [ <i>Invited Lecture</i> ]  |
| 2002 | Cortico-Limbic Activation in Adolescence and Adulthood, Youth Advocacy Project, Cape Cod, MA [ <i>Invited Lecture</i> ]   |
| 2008 | Lecture on <i>Sleep Deprivation, Executive Function, and Resilience to Sleep Loss</i> ; 105 <sup>th</sup> IMA Detachment, U.S. Army Reserve Center, Boston, MA [ <i>Invited Lecture</i> ]         |
| 2008 | Lecture on <i>The Role of Research Psychology in the Army</i> ; 105 <sup>th</sup> IMA Detachment, U.S. Army Reserve Center, Boston, MA [ <i>Invited Lecture</i> ]                                 |
| 2008 | Lecture on <i>Combat Stress Control: Basic Battlemind Training</i> ; 105 <sup>th</sup> IMA Detachment, U.S. Army Reserve Center, Boston, MA [ <i>Invited Lecture</i> ]                            |
| 2009 | Lecture entitled <i>Evaluate a Casualty, Prevent Shock, and Prevent Cold Weather injuries</i> ; 105 <sup>th</sup> IMA Detachment, U.S. Army Reserve Center, Boston, MA [ <i>Invited Lecture</i> ] |
| 2009 | Lecture on <i>Combat Exposure and Sleep Deprivation Effects on Risky Decision-Making</i> ; 105 <sup>th</sup> IMA Detachment, U.S. Army Reserve Center, Boston, MA [ <i>Invited Lecture</i> ]      |
| 2009 | Lecture on the <i>Sleep History and Readiness Predictor (SHARP)</i> ; 105 <sup>th</sup> IMA Detachment, U.S. Army Reserve Center, Boston, MA [ <i>Invited Lecture</i> ]                           |
| 2009 | Lecture on <i>The Use of Actigraphy for Measuring Sleep in Combat and Military Training</i> ;   |



- 105<sup>th</sup> IMA Detachment, U.S. Army Reserve Center, Boston, MA [*Invited Lecture*]
- 2010 Lecture entitled *Casualty Evaluation*; 105<sup>th</sup> IMA Detachment, U.S. Army Reserve Center, Boston, MA [*Invited Lecture*]
- 2010 Lecture entitled *Combat Stress and Risk-Taking Behavior Following Deployment*; 105<sup>th</sup> IMA Detachment, U.S. Army Reserve Center, Boston, MA [*Invited Lecture*]
- 2010 Lecture entitled *Historical Perspectives on Combat Medicine at the Battle of Gettysburg*; 105<sup>th</sup> IMA Detachment, U.S. Army Reserve Center, Boston, MA [*Invited Lecture*]
- 2010 Lecture entitled *Sleep Loss, Stimulants, and Decision-Making*; 105<sup>th</sup> IMA Detachment, U.S. Army Reserve Center, Boston, MA [*Invited Lecture*]
- 2010 Lecture entitled *PTSD: New Insights from Brain Imaging*; 105<sup>th</sup> IMA Detachment, U.S. Army Reserve Center, Boston, MA [*Invited Lecture*]
- 2011 Lecture entitled *Effects of bright light therapy on sleep, cognition and brain function after mild traumatic brain injury*; 105<sup>th</sup> IMA Detachment, U.S. Army Reserve Center, Boston, MA [*Invited Lecture*]
- 2011 Lecture entitled *Laboratory Sciences and Research Psychology in the Army*; 105<sup>th</sup> IMA Detachment, U.S. Army Reserve Center, Boston, MA [*Invited Lecture*]
- 2011 Lecture entitled *Tools for Assessing Sleep in Military Settings*; 105<sup>th</sup> IMA Detachment, U.S. Army Reserve Center, Boston, MA [*Invited Lecture*]
- 2011 Lecture entitled *The Brain Basis of Emotional Trauma and Practical Issues in Supporting Victims of Trauma*, U.S. Department of Justice, United States Attorneys Office, Serving Victims of Crime Training Program, Holyoke, MA [*Invited Lecture*]
- 2011 Lecture entitled *The Brain Altering Effects of Traumatic Experiences*; 105<sup>th</sup> Reinforcement Training Unit (RTU), U.S. Army Reserve Center, Boston, MA [*Invited Lecture*]
- 2012 Lecture entitled *Sleep Loss, Caffeine, and Military Performance*; 105<sup>th</sup> IMA Detachment, U.S. Army Reserve Center, Boston, MA [*Invited Lecture*]
- 2012 Lecture entitled *Using Light Therapy to Treat Sleep Disturbance Following Concussion*; 105<sup>th</sup> IMA Detachment, U.S. Army Reserve Center, Boston, MA [*Invited Lecture*]
- 2013 Lecture entitled *Brain Responses to Food: What you See Could Make you Fat*; 105<sup>th</sup> IMA Detachment, U.S. Army Reserve Center, Boston, MA [*Invited Lecture*]
- 2013 Lecture entitled *Predicting Resilience Against Sleep Loss*; 105<sup>th</sup> IMA Detachment, U.S. Army Reserve Center, Boston, MA [*Invited Lecture*]
- 2014 Lecture entitled *Get Some Shut-Eye or Get Fat: Sleep Loss Affects Brain Responses to*

*Food*; 105<sup>th</sup> IMA Detachment, U.S. Army Reserve Center, Boston, MA [Invited Lecture]

- 2014 Lecture entitled *Emotional Intelligence: Developing a Training Program*; 105<sup>th</sup> IMA Detachment, U.S. Army Reserve Center, Boston, MA [Invited Lecture]
- 2014 Lecture entitled *Supporting Cognitive and Emotional Health in Warfighters*. Presented to the Senior Vice President for the Senior Vice President for Health Sciences and Dean of the Medical School, University of Arizona, Tucson, AZ [Invited Lecture]
- 2015 Lecture entitled *Understanding the Effects of Mild TBI (Concussion) on the Brain*; 105<sup>th</sup> IMA Detachment, U.S. Army Reserve Center, Boston, MA [Invited Lecture]
- 2015 Presentation entitled *Superhuman Brains: The Neurocircuitry that Underlies the Ability to Resist Sleep Deprivation*. Presented at the Neuroscience Datablitz, University of Arizona, Tucson, AZ [Invited Lecture]

### **Seminars**

- 2001 *Using Functional MRI to Study the Developing Brain*, Judge Baker Children's Center, Harvard Medical School, Boston, MA [Invited Lecture]
- 2002 Lecture on the *Changes in the Lateralized Structure and Function of the Brain during Adolescent Development*, Walter Reed Army Institute of Research, Washington, DC [Invited Lecture]
- 2005 Lecture on *Functional Neuroimaging, Cognitive Assessment, and the Enhancement of Soldier Performance*, Walter Reed Army Institute of Research, Washington, DC [Invited Lecture]
- 2005 Lecture on *The Sleep History and Readiness Predictor*: Presented to the Medical Research and Materiel Command, Ft. Detrick, MD [Invited Lecture]
- 2006 Lecture on *Optimization of Judgment and Decision Making Capacities in Soldiers Following Sleep Deprivation*, Brain Imaging Center, McLean Hospital, Belmont MA [Invited Lecture]
- 2006 Briefing to the Chairman of the Cognitive Performance Assessment Program Area Steering Committee, U.S. Army Military Operational Medicine Research Program, entitled *Optimization of Judgment and Decision Making Capacities in Soldiers Following Sleep Deprivation*, Walter Reed Army Institute of Research [Invited Lecture]
- 2010 Lecture on *Patterns of Cortico-Limbic Activation Across Anxiety Disorders*, Center for Anxiety, Depression, and Stress, McLean Hospital, Belmont, MA [Invited Lecture]
- 2010 Lecture on *Cortico-Limbic Activation Among Anxiety Disorders*, Neuroimaging Center, McLean Hospital, Belmont, MA [Invited Lecture]

- 2011 Lecture on *Shared and Differential Patterns of Cortico-Limbic Activation Across Anxiety Disorders*, McLean Research Day Brief Communications, McLean Hospital, Belmont, MA [Invited Lecture]
- 2014 Lecture entitled *Supporting Cognitive and Emotional Health in Warfighters*. Presented to the Senior Vice President for Health Sciences and Dean of the Medical School, University of Arizona, Tucson, AZ [Invited Lecture]
- 2015 Lecture entitled *Sleep Loss and Brain Responses to Food*. Presented for the Sleep Medicine Lecture Series, University of Arizona Medical Center, Tucson, AZ [Invited Lecture]
- 2015 Presentation entitled *Superhuman Brains: The Neurocircuitry that Underlies the Ability to Resist Sleep Deprivation*. Presented at the Neuroscience Datablitz, University of Arizona, Tucson, AZ [Invited Lecture]
- 2015 Lecture entitled *Sleep Deprivation Selectively Impairs Emotional Aspects of Cognition*. Presented at the Pamela Turbeville Speaker Series, McClelland Institute for Children, Youth, and Families, Tucson, AZ, [Invited Lecture]
- 2005 Briefing to the Chairman of the National Research Council (NRC) Committee on Strategies to Protect the Health of Deployed U.S. Forces, John H. Moxley III, on the *Optimization of Judgment and Decision Making Capacities in Soldiers Following Sleep Deprivation*, Walter Reed Army Institute of Research, Washington, DC [Invited Lecture]
- 2006 Lecture on *Norming a Battery of Tasks to Measure the Cognitive Effects of Operationally Relevant Stressors*, Cognitive Performance Assessment Program Area Steering Committee, U.S. Army Military Operational Medicine Research Program, Washington, DC [Invited Lecture]
- 2007 Lecture on *Cerebral Responses During Visual Processing of Food*, U.S. Army Institute of Environmental Medicine, Natick, MA [Invited Lecture]
- 2007 Briefing on the *Measurement of Sleep-Wake Cycles and Cognitive Performance in Combat Aviators*, U.S. Department of Defense, Defense Advanced Research Projects Agency (DARPA), Washington, DC [Invited Lecture]
- 2007 Lecture on *The Effects of Fatigue and Pharmacological Countermeasures on Judgment and Decision-Making*, U.S. Army Aeromedical Research Laboratory, Fort Rucker, AL [Invited Lecture]
- 2008 Lecture on the *Validation of Actigraphy and the SHARP as Methods of Measuring Sleep and Performance in Soldiers*, U.S. Army Aeromedical Research Laboratory, Fort Rucker, AL [Seminar]
- 2009 Lecture on *Sleep Deprivation, Executive Function, and Resilience to Sleep Loss*: Walter Reed Army Institute of Research AIBS Review, Washington DC [Invited Lecture]

- 2009 Lecture Entitled *Influences of Combat Exposure and Sleep Deprivation on Risky Decision-Making*, Evans U.S. Army Hospital, Fort Carson, CO [Invited Lecture]
- 2009 Lecture on *Making Bad Choices: The Effects of Combat Exposure and Sleep Deprivation on Risky Decision-Making*, 4<sup>th</sup> Army, Division West, Quarterly Safety Briefing to the Commanding General and Staff, Fort Carson, CO [Invited Lecture]
- 2011 Lecture Entitled *The effects of emotional intelligence on judgment and decision making*, Military Operational Medicine Research Program Task Area C, R & A Briefing, Walter Reed Army Institute of Research, Silver Spring, MD [Invited Lecture]
- 2011 Lecture Entitled *Effects of bright light therapy on sleep, cognition, brain function, and neurochemistry following mild traumatic brain injury*, Military Operational Medicine Research Program Task Area C, R & A Briefing, Walter Reed Army Institute of Research, Silver Spring, MD [Invited Lecture]
- 2012 Briefing to GEN (Ret) George Casey Jr., former Chief of Staff of the U.S. Army, entitled *Research for the Soldier*. McLean Hospital, Belmont, MA. [Invited Lecture]
- 2012 Lecture Entitled *Effects of bright light therapy on sleep, cognition, brain function, and neurochemistry following mild traumatic brain injury*, Military Operational Medicine Research Program In Progress Review (IPR) Briefing, U.S. Army Medical Research and Materiel Command, Fort Detrick, MD [Invited Lecture]
- 2013 Lecture Entitled *Update on the Effects of Bright light therapy on sleep, cognition, brain function, and neurochemistry following mild traumatic brain injury*, Military Operational Medicine Research Program In Progress Review (IPR) Briefing, U.S. Army Medical Research and Materiel Command, Fort Detrick, MD [Invited Lecture]
- 2013 Lecture Entitled *Internet Based Cognitive Behavioral Therapy: Effects on Depressive Cognitions and Brain Function*, Military Operational Medicine Research Program In Progress Review (IPR) Briefing, U.S. Army Medical Research and Materiel Command, Fort Detrick, MD [Invited Lecture]
- 2013 Seminar Entitled *Predicting Resilience Against Sleep Loss*, United States Military Academy at West Point, West Point, NY [Invited Symposium].
- 2014 Lecture entitled *Sleep Loss, Brain Function, and Cognitive Performance*, presented to the Psychiatric Genetics and Translational Research Seminar, Massachusetts General Hospital/Harvard Medical School, Boston, MA [Invited Lecture]
- 2014 Grand Rounds Lecture entitled *Sleep Loss, Brain Function, and Performance of the Emotional-Executive System*. University of Arizona Psychiatry Grand Rounds, Tucson, AZ [Invited Lecture]
- 2014 Psychology Department Colloquium entitled *Sleep Loss, Brain Function, and Performance of the Emotional-Executive System*. University of Arizona Department of Psychology, Tucson, AZ [Invited Lecture]

- 2014 Lecture Entitled *Internet Based Cognitive Behavioral Therapy: Effects on Depressive Cognitions and Brain Function*, Military Operational Medicine Research Program In Progress Review (IPR) Briefing, U.S. Army Medical Research and Materiel Command, Fort Detrick, MD [*Invited Lecture*]
- 2014 Lecture Entitled *The Neurobiological Basis and Potential Modification of Emotional Intelligence Through Affective/Behavioral Training*, Military Operational Medicine Research Program In Progress Review (IPR) Briefing, U.S. Army Medical Research and Materiel Command, Fort Detrick, MD [*Invited Lecture*]
- 2015 Lecture Entitled *Multimodal Neuroimaging to Predict Resistance to Sleep Deprivation*, presented at the Pulmonary Research Conference, Department of Medicine, Sleep Medicine Sleep Lecture Series, University of Arizona College of Medicine, Tucson, AZ [*Invited Lecture*].
- 2015 Lecture entitled *Sleep Deprivation Selectively Impairs Emotional Aspects of Cognition*. Presented at the Pamela Turbeville Speaker Series, McClelland Institute for Children, Youth, and Families, Tucson, AZ, [*Invited Lecture*]
- 2015 Lecture Entitled *Effects of bright light therapy on sleep, cognition, brain function, and neurochemistry following mild traumatic brain injury*, Military Operational Medicine Research Program In Progress Review (IPR) Briefing, U.S. Army Medical Research and Materiel Command, Fort Detrick, MD [*Invited Lecture*]
- 2015 Lecture Entitled *A Non-Pharmacologic Method for Enhancing Sleep in PTSD*, Military Operational Medicine Research Program In Progress Review (IPR) Briefing, U.S. Army Medical Research and Materiel Command, Fort Detrick, MD [*Invited Lecture*]
- 2015 Lecture Entitled *Internet Based Cognitive Behavioral Therapy: Effects on Depressive Cognitions and Brain Function*, Military Operational Medicine Research Program In Progress Review (IPR) Briefing, U.S. Army Medical Research and Materiel Command, Fort Detrick, MD [*Invited Lecture*]
- 2015 Lecture Entitled *Operating Under the Influence: The Effects of Sleep Loss and Stimulants on Decision-Making and Performance*. Presented at the annual SAFER training for interns and residents, University of Arizona Department of Psychiatry, Tucson AZ [*Invited Lecture*]

### ***Symposia/Conferences***

- 1999 Oral Platform Presentation entitled *Functional MRI lateralization during memory encoding predicts seizure outcome following anterior temporal lobectomy*, 27<sup>th</sup> Annual Meeting of the International Neuropsychological Society, Boston, MA. [*Submitted Presentation*]
- 2000 Lecture on the *Neurobiology of Emotional Development in Children*, 9th Annual Parents

as Teachers Born to Learn Conference, St. Louis, MO [*Invited Lecture*]

- 2001 Oral Platform Presentation entitled *Sex differences in functional activation of the amygdala during the perception of happy faces*, 29<sup>th</sup> Annual Meeting of the International Neuropsychological Society, Chicago, IL. [*Submitted Presentation*]
- 2002 Oral Platform Presentation entitled *Developmental changes in the lateralized activation of the prefrontal cortex and amygdala during the processing of facial affect*, 30<sup>th</sup> Annual Meeting of the International Neuropsychological Society, Toronto, Ontario, Canada. [*Submitted Presentation*]
- 2002 Oral Platform Presentation *Gray and white matter volume during adolescence correlates with cognitive performance: A morphometric MRI study*, 30<sup>th</sup> Annual Meeting of the International Neuropsychological Society, Toronto, Ontario, Canada. [*Submitted Presentation*]
- 2004 Lecture on *Sleep Deprivation, Cognition, and Stimulant Countermeasures*: Seminar Presented at the Bi-Annual 71F Research Psychology Short Course, Ft. Detrick, MD, U.S. Army Medical Research and Materiel Command [*Invited Lecture*]
- 2004 Lecture on the *Regional Cerebral Blood Flow Correlates of Electroencephalographic Activity During Stage 2 and Slow Wave Sleep: An H215O PET Study*: Presented at the Bi-Annual 71F Research Psychology Short Course, Ft. Detrick, MD, U.S. Army Medical Research and Materiel Command [*Invited Lecture*]
- 2004 Oral Platform Presentation entitled *Regional cerebral metabolic correlates of electroencephalographic activity during stage-2 and slow-wave sleep: An H215O PET Study*, 18th Associated Professional Sleep Societies Annual Meeting, Philadelphia, PA. [*Submitted Presentation*]
- 2006 Lecture on *The Sleep History and Readiness Predictor*: Presented at the Bi-Annual 71F Research Psychology Short Course, Ft. Rucker, AL, U.S. Army Medical Research and Materiel Command [*Invited Lecture*]
- 2007 Symposium on *Cortical and Limbic Activation in Response to Visual Images of Low and High-Caloric Foods*, 6th Annual Meeting of the International Society for Behavioral Nutrition and Physical Activity (ISBNPA), Oslo, Norway [*Invited Lecture*]
- 2008 Lecture on *Sleep Deprivation, Executive Function, & Resilience to Sleep Loss*, First Franco-American Workshop on War Traumatism, IMNSSA, Toulon, France [*Invited Lecture*]
- 2009 Symposium Entitled *Sleep Deprivation, Judgment, and Decision-Making*, 23<sup>rd</sup> Annual Meeting of the Associated Professional Sleep Societies, Seattle, WA [*Invited Symposium*]
- 2009 Symposium Session Moderator for *Workshop on Components of Cognition and Fatigue: From Laboratory Experiments to Mathematical Modeling and Operational Applications*, Washington State University, Spokane, WA [*Invited Speaker*]

- 2009 Lecture on *Comparative Studies of Stimulant Action as Countermeasures for Higher Order Cognition and Executive Function Impairment that Results from Disrupted Sleep Patterns*, Presented at the NIDA-ODS Symposium entitled: Caffeine: Is the Next Problem Already Brewing, Rockville, MD [*Invited Lecture*]
- 2010 Oral Platform Presentation entitled *Sleep deprivation selectively impairs emotional aspects of cognitive functioning*, 27<sup>th</sup> Army Science Conference, Orlando, FL. [*Submitted Presentation*]
- 2010 Oral Platform Presentation entitled *Exaggerated amygdala responses to masked fearful faces are specific to PTSD versus simple phobia*, 27<sup>th</sup> Army Science Conference, Orlando, FL. [*Submitted Presentation*]
- 2012 Oral Symposium Presentation entitled *Shared and distinctive patterns of cortico-limbic activation across anxiety disorders*, 32<sup>nd</sup> Annual Conference of the Anxiety Disorders Association of America, Arlington, VA. [*Invited Symposium*]
- 2012 Oral Platform Presentation entitled *Shared and unique patterns of cortico-limbic activation across anxiety disorders*. 40<sup>th</sup> Meeting of the International Neuropsychological Society, Montreal, Canada. [*Submitted Presentation*]
- 2013 Lecture entitled *Brain responses to visual images of food: Could your eyes be the gateway to excess?* Presented to the NIH Nutrition Coordinating Committee and the Assistant Surgeon General of the United States, Bethesda, MD [*Invited Lecture*]
- 2014 Symposium Entitled *Operating Under the Influence: The Effects of Sleep Loss and Stimulants on Decision-Making and Performance*, Invited Faculty Presenter at the 34<sup>th</sup> Annual Cardiothoracic Surgery Symposium (CREF), San Diego, CA [*Invited Symposium*].
- 2014 Symposium Entitled *The Effects of Sleep Loss on Food Preference*, SLEEP 2014, Minneapolis, MN [*Invited Symposium*]
- 2015 Symposium Entitled *The Neurobiological Basis and Potential Modification of Emotional Intelligence in Military Personnel*. Invited presentation at the Yale Center for Emotional Intelligence, New Haven, CT [*Invited Lecture*]
- 2015 Lecture Entitled *Predicting Resilience to Sleep Loss with Multi-Modal Neuroimaging*. Invited presentation at the DARPA Sleep Workshop 2015, Arlington, VA [*Invited Lecture*]
- 2015 Symposium Entitled: *The Brain and Food: How your (sleepy) Eyes Might be the Gateway to Excess*, Invited Faculty Presenter at the 2015 University of Arizona Update on Psychiatry, Tucson, AZ [*Invited Symposium*].
- 2015 Oral Platform presentation entitled *Multimodal Neuroimaging to Predict Resistance to Sleep Deprivation*, Associated Professional Sleep Societies (APSS) SLEEP meeting, Seattle, WA [*Submitted Presentation*]

2015      Symposium Entitled presentation entitled *Sleep Deprivation and Emotional Decision Making*, Virginia Tech Sleep Workshop, Arlington, VA [*Invited Symposium*]

***Peer Reviewed Published Abstracts***

1.      **Killgore, WD.** Development and validation of a new instrument for the measurement of transient mood states: The facial analogue mood scale (FAMS) [Abstract]. Dissertation Abstracts International: Section B: The Sciences & Engineering 1995; 56 (6-B): 3500.
2.      **Killgore, WD, & Locke, B.** A nonverbal instrument for the measurement of transient mood states: The Facial Analogue Mood Scale (FAMS) [Abstract]. Proceedings of the Annual Conference of the Oklahoma Center for Neurosciences 1996, Oklahoma City, OK.
3.      **Killgore, WD, Scott, JG, Oommen, KJ, & Jones, H.** Lateralization of seizure focus and performance on the MMPI-2 [Abstract]. Proceedings of the Annual Conference of the Oklahoma Center for Neurosciences 1996, Oklahoma City, OK.
4.      **Killgore, WD, & Adams, RL.** Vocabulary ability and Boston Naming Test performance: Preliminary guidelines for interpretation [Abstract]. Archives of Clinical Neuropsychology 1997; 13(1).
5.      **Killgore, WD, Glosser, G, Cooke, AN, Grossman, M, Maldjian, J, Judy, K, Baltuch, G, King, D, Alsop, D, & Detre, JA.** Functional activation during verbal memory encoding in patients with lateralized focal lesions [Abstract]. Epilepsia 1998; 39(Suppl. 6): 99.
6.      **Killgore, WD.** A new method for assessing subtle cognitive deficits: The Clock Trail Making Test [Abstract]. Archives of Clinical Neuropsychology 1998; 14(1): 92.
7.      **Killgore, WD, & DellaPietra, L.** Item response biases on the WMS-III Auditory Delayed Recognition Subtests [Abstract]. Archives of Clinical Neuropsychology 1998; 14(1): 92.
8.      **Killgore, WD, Glosser, G, Alsop, DC, Cooke, AN, McSorley, C, Grossman, M, & Detre, JA.** Functional activation during material specific memory encoding [Abstract]. NeuroImage 1998; 7: 811.
9.      **Killgore, WD, & DellaPietra, L.** Using the WMS-III to detect malingering: Empirical development of the Rarely Missed Index. [Abstract]. Journal of the International Neuropsychological Society 1999; 5(2).
10.     **Killgore, WD, Glosser, G, & Detre, JA.** Prediction of seizure outcome following anterior temporal lobectomy: fMRI vs. IAT [Abstract]. Archives of Clinical Neuropsychology 1999; 14(1): 143.
11.     **Killgore, WD, Glosser, G, King, D, French, JA, Baltuch, G, & Detre, JA.** Functional MRI



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46. Killgore, DB, McBride, SA, Balkin, TJ, & **Killgore, WD**. Post-stimulant hangover: The effects of caffeine, modafinil, and dextroamphetamine on sustained verbal fluency following sleep deprivation and recovery sleep [abstract]. Abstract presented at the Associated Professional Sleep Societies 19th Annual Meeting, Denver, CO, June 18-23, 2005. SLEEP, 28 (Supplement), A137.
47. **Killgore, WD**, Balkin, TJ, & Wesensten, NJ. Impaired decision-making following 49 hours of sleep deprivation [abstract]. Abstract presented at the Associated Professional Sleep Societies 19th Annual Meeting, Denver, CO, June 18-23, 2005. SLEEP, 28 (Supplement), A138.
48. **Killgore, WD**, McBride, SA, Killgore, DB, & Balkin, TJ. Stimulant countermeasures and risk propensity across 2 nights of sleep deprivation [abstract]. Abstract presented at the Associated Professional Sleep Societies 19th Annual Meeting, Denver, CO, June 18-23, 2005. SLEEP, 28 (Supplement), A136.
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51. **Killgore, WD**, Killgore, DB, McBride, SA, & Balkin, TJ. Sustained verbal fluency following sleep deprivation and recovery sleep: The effects of caffeine, modafinil, and dextroamphetamine. Poster presented at the 34th Meeting of the International Neuropsychological Society, Boston, MA, February 1-4, 2006.
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Neuropsychological Society, Boston, MA, February 1-4, 2006.

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54. **Killgore, WD,** & Yurgelun-Todd, DA. Social anxiety predicts amygdala activation in adolescents viewing fearful faces. Poster presented at the 34th Meeting of the International Neuropsychological Society, Boston, MA, February 1-4, 2006.
55. McBride, SA & **Killgore, WD.** Sleepy people smell worse: Olfactory deficits following extended wakefulness. Paper presented at the Workshop on Trace Gas Detection Using Artificial, Biological, and Computational Olfaction. Monell Chemical Senses Center, Philadelphia, PA, March 29-31, 2006.
56. **Killgore, WD,** Day LM, Li, C, Kamimori, GH, Balkin, TJ, & Killgore DB. Moral reasoning is affected by sleep deprivation [abstract]. Abstract presented at the 20th Meeting of the Associated Professional Sleep Societies, Salt Lake City, UT, June 17-22, 2006. SLEEP, 29 (Supplement), A137.
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59. Huck, NO, Kendall, AP, McBride, SA, **Killgore, WD.** The perception of facial emotion is enhanced by psychostimulants following two nights of sleep deprivation [abstract]. Abstract presented at the 20th Meeting of the Associated Professional Sleep Societies, Salt Lake City, UT, June 17-22, 2006. SLEEP, 29 (Supplement), A136.
60. O'Sullivan, M, Reichardt, RM, Krugler, AL, Killgore, DB, & **Killgore, WD.** Premorbid intelligence correlates with duration and quality of recovery sleep following sleep deprivation [abstract]. Abstract presented at the 20th Meeting of the Associated Professional Sleep Societies, Salt Lake City, UT, June 17-22, 2006. SLEEP, 29 (Supplement), A372.
61. McBride, SA, **Killgore, WD,** Kahn-Green, E, Conrad, A, & Kamimori, GH. Caffeine administered to maintain overnight alertness does not disrupt performance during the daytime withdrawal period [abstract]. Abstract presented at the 20th Meeting of the Associated Professional Sleep Societies, Salt Lake City, UT, June 17-22, 2006. SLEEP, 29 (Supplement), A136.
62. McBride, SA, Killgore DB, Balkin, TJ, Kamimori, GH, & **Killgore, WD.** Sleepy people smell worse: Olfactory decrements as a function of sleep deprivation [abstract]. Abstract presented at the 20th Meeting of the Associated Professional Sleep Societies, Salt Lake City, UT, June

17-22, 2006. SLEEP, 29 (Supplement), A135.

63. Day, LM, Li, C, Killgore, DB, Kamimori, GH, & **Killgore, WD**. Emotional intelligence moderates the effect of sleep deprivation on moral reasoning [abstract]. Abstract presented at the 20th Meeting of the Associated Professional Sleep Societies, Salt Lake City, UT, June 17-22, 2006. SLEEP, 29 (Supplement), A135.
64. Murray, CJ, Killgore, DB, Kamimori, GH, & **Killgore, WD**. Individual differences in stress management capacity predict responsiveness to caffeine during sleep deprivation [abstract]. Abstract presented at the 20th Meeting of the Associated Professional Sleep Societies, Salt Lake City, UT, June 17-22, 2006. SLEEP, 29 (Supplement), A43.
65. Murray, CJ, Newman, R, O'Sullivan, M, Killgore, DB, Balkin, TJ, & **Killgore, WD**. Caffeine, dextroamphetamine, and modafinil fail to restore Stroop performance during sleep deprivation [abstract]. Abstract presented at the 20th Meeting of the Associated Professional Sleep Societies, Salt Lake City, UT, June 17-22, 2006. SLEEP, 29 (Supplement), A370-371.
66. Richards, J, Killgore, DB, & **Killgore, WD**. The effect of 44 hours of sleep deprivation on mood using the Visual Analog Mood Scales [abstract]. Abstract presented at the 20th Meeting of the Associated Professional Sleep Societies, Salt Lake City, UT, June 17-22, 2006. SLEEP, 29 (Supplement), A132.
67. Richards, J, & **Killgore, WD**. The effect of caffeine, dextroamphetamine, and modafinil on alertness and mood during sleep deprivation [abstract]. Abstract presented at the 20th Meeting of the Associated Professional Sleep Societies, Salt Lake City, UT, June 17-22, 2006. SLEEP, 29 (Supplement), A43.
68. Lipizzi, EL, Leavitt, BP, Killgore, DB, Kamimori, GH, & **Killgore, WD**. Decision making capabilities decline with increasing duration of wakefulness [abstract]. Abstract presented at the 20th Meeting of the Associated Professional Sleep Societies, Salt Lake City, UT, June 17-22, 2006. SLEEP, 29 (Supplement), A131.
69. Lipizzi, EL, Killgore, DB, Kahn-Green, E, Kamimori, GH, & **Killgore, WD**. Emotional intelligence scores decline during sleep deprivation [abstract]. Abstract presented at the 20th Meeting of the Associated Professional Sleep Societies, Salt Lake City, UT, June 17-22, 2006. SLEEP, 29 (Supplement), A131.
70. Kahn-Green, E, Day, L, Conrad, A, Leavitt, BP, Killgore, DB, & **Killgore, WD**. Short-term vs. long-term planning abilities: Differential effects of stimulants on executive function in sleep deprived individuals [abstract]. Abstract presented at the 20th Meeting of the Associated Professional Sleep Societies, Salt Lake City, UT, June 17-22, 2006. SLEEP, 29 (Supplement), A370.
71. Kahn-Green, E, Conrad, A, Killgore, DB, Kamimori, GH, & **Killgore, WD**. Tired and frustrated: Using a projective technique for assessing responses to stress during sleep deprivation [abstract]. Abstract presented at the 20th Meeting of the Associated Professional Sleep Societies, Salt Lake City, UT, June 17-22, 2006. SLEEP, 29 (Supplement), A130.

72. Killgore, DB, Kahn-Green, E, Balkin, TJ, Kamimori, GH, & **Killgore, WD**. 56 hours of wakefulness is associated with a sub-clinical increase in symptoms of psychopathology [abstract]. Abstract presented at the 20th Meeting of the Associated Professional Sleep Societies, Salt Lake City, UT, June 17-22, 2006. SLEEP, 29 (Supplement), A130.
73. Killgore, DB, McBride, SA, Balkin, TJ, Leavitt, BP, & **Killgore, WD**. Modafinil improves humor appreciation during sleep deprivation [abstract]. Abstract presented at the 20th Meeting of the Associated Professional Sleep Societies, Salt Lake City, UT, June 17-22, 2006. SLEEP, 29 (Supplement), A42.
74. Reichardt, RM, Killgore, DB, Lipizzi, EL, Li, CJ, Krugler, AL, & **Killgore, WD**. The effects of stimulants on recovery sleep and post-recovery verbal performance following 61-hours of sleep deprivation [abstract]. Abstract presented at the 20th Meeting of the Associated Professional Sleep Societies, Salt Lake City, UT, June 17-22, 2006. SLEEP, 29 (Supplement), A42.
75. Bailey, JD, Richards, J, & **Killgore, WD**. Prediction of mood fluctuations during sleep deprivation with the SAFTE Model [abstract]. Abstract presented at the 20th Meeting of the Associated Professional Sleep Societies, Salt Lake City, UT, June 17-22, 2006. SLEEP, 29 (Supplement), A60.
76. Kendall, AP, McBride, S. A, & **Killgore, WD**. Visuospatial perception of line orientation is resistant to one night of sleep loss [abstract]. Abstract presented at the 20th Meeting of the Associated Professional Sleep Societies, Salt Lake City, UT, June 17-22, 2006. SLEEP, 29 (Supplement), A369.
77. Kendall, AP, McBride, SA, Kamimori, GH, & **Killgore, WD**. The interaction of coping skills and stimulants on sustaining vigilance: Poor coping may keep you up at night [abstract]. Abstract presented at the 20th Meeting of the Associated Professional Sleep Societies, Salt Lake City, UT, June 17-22, 2006. SLEEP, 29 (Supplement), A129.
78. Muckle, A, Killgore, DB, & **Killgore, WD**. Gender differences in the effects of stimulant medications on the ability to estimate unknown quantities when sleep deprived [abstract]. Abstract presented at the 20th Meeting of the Associated Professional Sleep Societies, Salt Lake City, UT, June 17-22, 2006. SLEEP, 29 (Supplement), A369.
79. Krugler, AL, **Killgore, WD**, & Kamimori, G. H. Trait anger predicts resistance to sleep loss [abstract]. Abstract presented at the 20th Meeting of the Associated Professional Sleep Societies, Salt Lake City, UT, June 17-22, 2006. SLEEP, 29 (Supplement), A129.
80. **Killgore, WD**, Cotting, DI, Vo, A. H, Castro, CA, & Hoge, CW. The invincibility syndrome: Combat experiences predict risk-taking propensity following redeployment [abstract]. Abstract presented at the 9th Annual Force Health Protection Conference, Albuquerque, NM, August 6-11, 2006.
81. **Killgore, WD**, Wesensten, NJ, & Balkin, TJ. Stimulants improve tactical but not strategic planning during prolonged wakefulness [abstract]. Abstract presented at the 9th Annual Force Health Protection Conference, Albuquerque, NM, August 6-11, 2006.

82. **Killgore, WD**, Balkin, TJ, Wesensten, NJ, & Kamimori, G. H. The effects of sleep loss and caffeine on decision-making [abstract]. Abstract presented at the 9th Annual Force Health Protection Conference, Albuquerque, NM, August 6-11, 2006.
83. **Killgore, WD**, Balkin, TJ, & Kamimori, GH. Sleep loss can impair moral judgment [abstract]. Abstract presented at the 9th Annual Force Health Protection Conference, Albuquerque, NM, August 6-11, 2006.
84. **Killgore, WD**, Lipizzi, EL, Reichardt, RM, Kamimori, GH, & Balkin, TJ. Can stimulants reverse the effects of sleep deprivation on risky decision-making [abstract]? Abstract presented at the 25th Army Science Conference, Orlando, FL, November 27-30, 2006.
85. **Killgore, WD**, Killgore, DB, Kamimori, GH, & Balkin, TJ. Sleep deprivation impairs the emotional intelligence and moral judgment capacities of Soldiers [abstract]. Abstract presented at the 25th Army Science Conference, Orlando, FL, November 27-30, 2006.
86. **Killgore, WD**, Cotting, DI, Vo, AH, Castro, C.A, & Hoge, CW. The post-combat invincibility syndrome: Combat experiences increase risk-taking propensity following deployment [abstract]. Abstract presented at the 25th Army Science Conference, Orlando, FL, November 27-30, 2006.
87. Adam, GE, Szelenyi, ER, **Killgore, WD**, & Lieberman, HR. A double-blind study of two days of caloric deprivation: Effects on judgment and decision-making. Oral paper presentation at the Annual Scientific Meeting of the Aerospace Medical Association, New Orleans, LA, May, 2007.
88. Killgore, DB, Kahn-Greene, ET, Kamimori, GH, & **Killgore, WD**. The effects of acute caffeine withdrawal on short category test performance in sleep deprived individuals [abstract]. Abstract presented at the 21st Meeting of the Associated Professional Sleep Societies, Minneapolis, MN, June 9-14, 2007. SLEEP, 30 (Supplement), A43.
89. Richards, JM, Lipizzi, EL, Kamimori, GH, & **Killgore, WD**. Extroversion predicts change in attentional lapses during sleep deprivation [abstract]. Abstract presented at the 21st Meeting of the Associated Professional Sleep Societies, Minneapolis, MN, June 9-14, 2007. SLEEP, 30 (Supplement), A137.
90. Lipizzi, EL, Richards, JM, Balkin, TJ, Grugle, NL, & **Killgore, WD**. Morningness-Eveningness and Intelligence [abstract]. Abstract presented at the 21st Meeting of the Associated Professional Sleep Societies, Minneapolis, MN, June 9-14, 2007. SLEEP, 30 (Supplement), A345.
91. Lipizzi, EL, Richards, Balkin, TJ, Grugle, NL, & **Killgore WD**. Morningness-Eveningness affects risk-taking propensity during sleep deprivation [abstract]. Abstract presented at the 21st Meeting of the Associated Professional Sleep Societies, Minneapolis, MN, June 9-14, 2007. SLEEP, 30 (Supplement), A136.
92. McBride, SA, Ganesan, G, Kamimori, GH, & **Killgore, WD**. Odor identification ability predicts vulnerability to attentional lapses during 77 hours of sleep deprivation [abstract]. Abstract



presented at the 21st Meeting of the Associated Professional Sleep Societies, Minneapolis, MN, June 9-14, 2007. SLEEP, 30 (Supplement), A135.

93. Smith, KL, McBride, S. A, Kamimori, GH, & **Killgore, WD**. Individual differences in odor discrimination predict mood dysregulation following 56 hours of sleep deprivation [abstract]. Abstract presented at the 21st Meeting of the Associated Professional Sleep Societies, Minneapolis, MN, June 9-14, 2007. SLEEP, 30 (Supplement), A136.
94. McBride, SA, Leavitt, BP, Kamimori, GH, & **Killgore, WD**. Odor identification accuracy predicts resistance to sleep loss. Abstract presented at the 21st Meeting of the Associated Professional Sleep Societies, Minneapolis, MN, June 9-14, 2007. SLEEP, 30 (Supplement), A137.
95. Killgore, DB, McBride, SA, Balkin, TJ, Grugle, NL. & **Killgore, WD**. Changes in odor discrimination predict executive function deficits following 45 hours of wakefulness [abstract]. Abstract presented at the 21st Meeting of the Associated Professional Sleep Societies, Minneapolis, MN, June 9-14, 2007. SLEEP, 30 (Supplement), A136.
96. Rupp, TL, Killgore, DB, Balkin, TJ, Grugle, NL, & **Killgore, WD**. The effects of modafinil, dextroamphetamine, and caffeine on verbal and nonverbal fluency in sleep deprived individuals [abstract]. Abstract presented at the 21st Meeting of the Associated Professional Sleep Societies, Minneapolis, MN, June 9-14, 2007. SLEEP, 30 (Supplement), A43.
97. Newman, RA, Krugler, AL, Kamimori, GH, & **Killgore, WD**. Changes in state and trait anger following 56 hours of sleep deprivation [abstract]. Abstract presented at the 21st Meeting of the Associated Professional Sleep Societies, Minneapolis, MN, June 9-14, 2007. SLEEP, 30 (Supplement), A138.
98. Rupp, TL, Grugle, NL, Krugler, AL, Balkin, TJ, & **Killgore, WD**. Caffeine, dextroamphetamine, and modafinil improve PVT performance after sleep deprivation and recovery sleep [abstract]. Abstract presented at the 21st Meeting of the Associated Professional Sleep Societies, Minneapolis, MN, June 9-14, 2007. SLEEP, 30 (Supplement), A44.
99. **Killgore, WD**, Lipizzi, EL, Balkin, TJ, Grugle, NL, & Killgore, DB. The effects of sleep deprivation and stimulants on self-reported sensation seeking propensity [abstract]. Abstract presented at the 21st Meeting of the Associated Professional Sleep Societies, Minneapolis, MN, June 9-14, 2007. SLEEP, 30 (Supplement), A42.
100. **Killgore, WD**, Richards, JM, Balkin, TJ, Grugle, NL, & Killgore DB. The effects of sleep deprivation and stimulants on risky behavior [abstract]. Abstract presented at the 21st Meeting of the Associated Professional Sleep Societies, Minneapolis, MN, June 9-14, 2007. SLEEP, 30 (Supplement), A41.
101. Newman, RA, Smith, KL, Balkin, TJ, Grugle, NL, & **Killgore, WD**. The effects of caffeine, dextroamphetamine, and modafinil on executive functioning following 45 hours of sleep deprivation [abstract]. Abstract presented at the 21st Meeting of the Associated Professional Sleep Societies, Minneapolis, MN, June 9-14, 2007. SLEEP, 30 (Supplement), A45.

102. Richards, JM, Lipizzi, EL, Balkin, TJ, Grugle, NL, & **Killgore, WD**. Objective alertness predicts mood changes during 44 hours of sleep deprivation [abstract]. Abstract presented at the 21st Meeting of the Associated Professional Sleep Societies, Minneapolis, MN, June 9-14, 2007. SLEEP, 30 (Supplement), A56.
103. **Killgore, WD**, & Yurgelun-Todd, DA. Cortical and Limbic Activation in Response to Visual Images of Low and High-Caloric Food [abstract]. Oral symposium presented at the 6<sup>th</sup> Annual Conference of the Society of Behavioral Nutrition and Physical Activity (ISBNPA), Oslo, Norway, June 20-23, 2007. Proceedings of the ISBNPA, 2007, 75.
104. Estrada, A, **Killgore, WD**, Rouse, T, Balkin, TJ, & Wildzunas, RM. Total sleep time measured by actigraphy predicts academic performance during military training [abstract]. Abstract presented at the 22nd Meeting of the Associated Professional Sleep Societies, Baltimore, MD, June 7-12, 2008. SLEEP, 31 (Supplement), A134.
105. **Killgore, WD**, Lipizzi, EL, Smith, KL, Killgore, DB, Rupp, TL, Kamimori, GH, & Balkin, T. J. Nonverbal intelligence is inversely related to the ability to resist sleep loss [abstract]. Abstract presented at the 22nd Meeting of the Associated Professional Sleep Societies, Baltimore, MD, June 7-12, 2008. SLEEP, 31 (Supplement), A134.
106. **Killgore, WD**, Lipizzi, EL, Killgore, DB, Rupp, TL, Kamimori, GH, & Balkin, TJ. Emotional intelligence predicts declines in emotion-based decision-making following sleep deprivation [abstract]. Abstract presented at the 22nd Meeting of the Associated Professional Sleep Societies, Baltimore, MD, June 7-12, 2008. SLEEP, 31 (Supplement), A134.
107. Reid, CT, Smith, K, **Killgore, WD**, Rupp, TL, & Balkin, TJ. Higher intelligence is associated with less subjective sleepiness during sleep restriction [abstract]. Abstract presented at the 22nd Meeting of the Associated Professional Sleep Societies, Baltimore, MD, June 7-12, 2008. SLEEP, 31 (Supplement), A375.
108. Newman, R, **Killgore, WD**, Rupp, T. L, & Balkin, TJ. Better baseline olfactory discrimination is associated with worse PVT and MWT performance with sleep restriction and recovery [abstract]. Abstract presented at the 22nd Meeting of the Associated Professional Sleep Societies, Baltimore, MD, June 7-12, 2008. SLEEP, 31 (Supplement), A375.
109. Smith, KL, Reid, CT, **Killgore, WD**, Rupp, TL, & Balkin, TJ. Personality factors associated with performance and sleepiness during sleep restriction and recovery [abstract]. Abstract presented at the 22nd Meeting of the Associated Professional Sleep Societies, Baltimore, MD, June 7-12, 2008. SLEEP, 31 (Supplement), A376.
110. Lipizzi, EL, **Killgore, WD**, Rupp, TL, & Balkin, TJ. Risk-taking behavior is elevated during recovery from sleep restriction [abstract]. Abstract presented at the 22nd Meeting of the Associated Professional Sleep Societies, Baltimore, MD, June 7-12, 2008. SLEEP, 31 (Supplement), A376.
111. Lipizzi, EL, Rupp, TL, **Killgore, WD**, & Balkin, TJ. Sleep restriction increases risk-taking behavior [abstract]. Poster presented at the 11th Annual Force Health Protection Conference,

Albuquerque, NM, August, 9-15, 2008.

112. **Killgore, WD**, Estrada, A, Balkin, TJ, & Wildzunas, RM. Sleep duration during army training predicts course performance [abstract]. Poster presented at the 6th Annual Force Health Protection Conference, Albuquerque, NM, August, 11-17, 2008.
113. **Killgore, WD**, Lipizzi, EL, Smith, KL, Killgore, DB, Rupp, TL, Kamimori, GH, & Balkin, TJ. Higher cognitive ability is associated with reduced relative resistance to sleep loss [abstract]. Poster presented at the 6th Annual Force Health Protection Conference, Albuquerque, NM, August, 11-17, 2008.
114. **Killgore, WD**, Rupp, TL, Grugle, NL, Lipizzi, EL, & Balkin, TJ. Maintaining alertness during sustained operations: Which stimulant is most effective after 44 hours without sleep [abstract]? Poster presented at the 6th Annual Force Health Protection Conference, Albuquerque, NM, August, 11-17, 2008.
115. **Killgore, WD**, Newman, RA, Lipizzi, EL, Kamimori, GH, & Balkin, TJ. Sleep deprivation increases feelings of anger but reduces verbal and physical aggression in Soldiers [abstract]. Poster presented at the 6th Annual Force Health Protection Conference, Albuquerque, NM, August, 11-17, 2008.
116. Kelley, AM, Dretsch, M, **Killgore, WD**, & Athy, JR. Risky behaviors and attitudes about risk in Soldiers. Abstract presented at the 29<sup>th</sup> Annual Meeting of the Society for Judgment and Decision Making, Chicago, IL, November, 2008.
117. **Killgore, WD**, Ross, AJ, Silveri, MM, Gruber, SA, Kamiya, T, Kawada, Y, Renshaw, PF, & Yurgelun-Todd, DA. Citicoline affects appetite and cortico-limbic responses to images of high calorie foods. Abstract presented at the Society for Neuroscience, Washington DC, November 19, 2008.
118. Britton, JC, Stewart, SE, Price, LM, **Killgore, WD**, Gold, AL, Jenike, MA, & Rauch, SL. Reduced amygdalar activation in response to emotional faces in pediatric Obsessive-Compulsive Disorder. Abstract presented at the Annual meeting of the American College of Neuropsychopharmacology, Scottsdale, AZ, December 7-11, 2008.
119. **Killgore, WD**, Balkin, TJ, Estrada, A, & Wildzunas, RM. Sleep and performance measures in soldiers undergoing military relevant training. Abstract presented at the 26<sup>th</sup> Army Science Conference, Orlando, FL, December 1-4, 2008.
120. **Killgore, WD** & Yurgelun-Todd, DA. Cerebral correlates of amygdala responses during non-conscious perception of affective faces in adolescent children. Abstract presented at the 37<sup>th</sup> Annual Meeting of the International Neuropsychological Society, Atlanta, GA, February 11-14, 2009.
121. **Killgore, WD**, Killgore, DB, Grugle, NL, & Balkin, TJ. Odor identification ability predicts executive function deficits following sleep deprivation. Abstract presented the 37<sup>th</sup> Annual Meeting of the International Neuropsychological Society, Atlanta, GA, February 11-14, 2009.
122. **Killgore, WD**, Rupp, TL, Killgore, DB, Grugle, NL, and Balkin, TJ. Differential effects of

stimulant medications on verbal and nonverbal fluency during sleep deprivation. Abstract presented the 37<sup>th</sup> Annual Meeting of the International Neuropsychological Society, Atlanta, GA, February 11-14, 2009.

123. **Killgore, WD**, Killgore, DB, Kamimori, GH, & Balkin, TJ. When being smart is a liability: More intelligent individuals may be less resistant to sleep deprivation. Abstract presented the 37<sup>th</sup> Annual Meeting of the International Neuropsychological Society, Atlanta, GA, February 11-14, 2009.
124. **Killgore, WD**, Britton, JC, Price, LM, Gold, AL, Deckersbach, T, & Rauch, SL. Introversion is associated with greater amygdala and insula activation during viewing of masked affective stimuli. Abstract presented the 37<sup>th</sup> Annual Meeting of the International Neuropsychological Society, Atlanta, GA, February 11-14, 2009.
125. **Killgore, WD**, Britton, JC, Price, LM, Gold, AL, Deckersbach, T, & Rauch, SL. Amygdala responses of specific animal phobics do not differ from healthy controls during masked fearful face perception. Abstract presented the 37<sup>th</sup> Annual Meeting of the International Neuropsychological Society, Atlanta, GA, February 11-14, 2009.
126. **Killgore, WD**, Britton, JC, Price, LM, Gold, AL, Deckersbach, T, & Rauch, SL. Small animal phobics show sustained amygdala activation in response to masked happy facial expressions. Abstract presented the 37<sup>th</sup> Annual Meeting of the International Neuropsychological Society, Atlanta, GA, February 11-14, 2009. [*\*Merit Poster Award*]
127. Price, LM, **Killgore, WD**, Britton, JC, Kaufman, ML, Gold, AL, Deckersbach, T, & Rauch, SL. Anxiety sensitivity correlates with insula activation in response to masked fearful faces in specific animal phobics and healthy subjects. Abstract presented at the Annual Conference of the Anxiety Disorders Association of America, Santa Ana Pueblo, New Mexico, March 12-15, 2009.
128. **Killgore, WD**, Britton, JC, Price, LM, Gold, AL, Deckersbach, T, & Rauch, SL. Neuroticism is inversely correlated with amygdala and insula activation during masked presentations of affective stimuli. Abstract presented at the Annual Conference of the Anxiety Disorders Association of America, Santa Ana Pueblo, New Mexico, March 12-15, 2009.
129. **Killgore, WD**, Kelley, AM, & Balkin, TJ. Development and validation of a scale to measure the perception of invincibility. Abstract presented at the Annual Conference of the Anxiety Disorders Association of America, Santa Ana Pueblo, New Mexico, March 12-15, 2009.
130. Kelly, AM, **Killgore WD**, Athy, J, & Dretsch, M. Risk propensity, risk perception, risk aversion, and sensation seeking in U.S. Army soldiers. Abstract presented at the 80<sup>th</sup> Annual Scientific Meeting of the Aerospace Medical Association, Los Angeles, CA, May 3-7, 2009.
131. Britton, JC, Stewart, SE, Price, LM, **Killgore, WD**, Jenike, MA, & Rauch, SL. The neural correlates of negative priming in pediatric obsessive-compulsive disorder (OCD). Abstract presented at the 64<sup>th</sup> Annual Scientific Meeting of the Society of Biological Psychiatry, Vancouver, Canada, May 14-16, 2009.

132. **Killgore, WD**, Killgore, DB, Kamimori, GH, & Balkin, TJ. Caffeine protects against increased risk-taking behavior during severe sleep deprivation. Abstract presented at the 23<sup>rd</sup> Annual Meeting of the Associated Professional Sleep Societies, Seattle, Washington, June 7-12, 2009.
133. Killgore, DB, **Killgore, WD**, Grugle, NL, & Balkin, TJ. Executive functions predict the ability to sustain psychomotor vigilance during sleep loss. Abstract presented at the 23<sup>rd</sup> Annual Meeting of the Associated Professional Sleep Societies, Seattle, Washington, June 7-12, 2009.
134. **Killgore, WD**, & Yurgelun-Todd, DA. Trouble falling asleep is associated with reduced activation of dorsolateral prefrontal cortex during a simple attention task. Abstract presented at the 23<sup>rd</sup> Annual Meeting of the Associated Professional Sleep Societies, Seattle, Washington, June 7-12, 2009.
135. **Killgore, WD**, Kelley, AM, & Balkin, TJ. A new scale for measuring the perception of invincibility. Abstract presented at the 12<sup>th</sup> Annual Force Health Protection Conference, Albuquerque, New Mexico, August 14-21, 2009.
136. **Killgore, WD**, Killgore, DB, Grugle, NL, & Balkin, TJ. Executive functions contribute to the ability to resist sleep loss. Abstract presented at the 12<sup>th</sup> Annual Force Health Protection Conference, Albuquerque, New Mexico, August 14-21, 2009.
137. **Killgore, WD**, Killgore, DB, Kamimori, GH, & Balkin, TJ. Caffeine reduces risk-taking behavior during severe sleep deprivation. Abstract presented at the 12<sup>th</sup> Annual Force Health Protection Conference, Albuquerque, New Mexico, August 14-21, 2009. [*\*Best Paper: Research*]
138. **Killgore, WD**, Castro, CA, & Hoge, CW. Normative data for the Evaluation of Risks Scale—Bubble Sheet Version (EVAR-B) for large scale surveys of returning combat veterans. Abstract presented at the 12<sup>th</sup> Annual Force Health Protection Conference, Albuquerque, New Mexico, August 14-21, 2009.
139. **Killgore, WD**, Castro, CA, & Hoge, CW. Combat exposure and post-deployment risky behavior. Abstract presented at the 12<sup>th</sup> Annual Force Health Protection Conference, Albuquerque, New Mexico, August 14-21, 2009.
140. **Killgore, WD**, Price, LM, Britton, JC, Simon, N, Pollack, MH, Weiner, MR, Schwab, ZJ, Rosso, IM, & Rauch, SL. Paralimbic responses to masked emotional faces in PTSD: Disorder and valence specificity. Abstract presented at the Annual McLean Hospital Research Day, January 29, 2010.
141. **Killgore, WD**, Killgore, DB, Kamimori, GH, & Balkin, TJ. Caffeine minimizes behavioral risk-taking during 75 hours of sleep deprivation. Abstract presented at the 38<sup>th</sup> Annual Meeting of the International Neuropsychological Society, Acapulco, Mexico, February 3-6, 2010.
142. **Killgore, WD** & Balkin, TJ. Vulnerability to sleep loss is affected by baseline executive function capacity. Abstract presented at the 38<sup>th</sup> Annual Meeting of the International Neuropsychological Society, Acapulco, Mexico, February 3-6, 2010.

143. **Killgore, WD**, Smith, KL, Reichardt, RM., Killgore, DB, & Balkin, TJ. Intellectual capacity is related to REM sleep following sleep deprivation. Abstract presented at the 38<sup>th</sup> Annual Meeting of the International Neuropsychological Society, Acapulco, Mexico, February 3-6, 2010.
144. **Killgore, WD** & Yurgelun-Todd, DA. Cerebral correlates of amygdala responses to masked fear, anger, and happiness in adolescent and pre-adolescent children. Abstract presented at the 38<sup>th</sup> Annual Meeting of the International Neuropsychological Society, Acapulco, Mexico, February 3-6, 2010.
145. **Killgore, WD**, Post, A, & Yurgelun-Todd, DA. Sex differences in cortico-limbic responses to images of high calorie food. Abstract presented at the 38<sup>th</sup> Annual Meeting of the International Neuropsychological Society, Acapulco, Mexico, February 3-6, 2010.
146. **Killgore, WD** & Yurgelun-Todd, DA. Self-reported insomnia is associated with increased activation within the default-mode network during a simple attention task. Abstract presented at the 38<sup>th</sup> Annual Meeting of the International Neuropsychological Society, Acapulco, Mexico, February 3-6, 2010.
147. **Killgore, WD**, Price, LM, Britton, JC, Gold, AL, Deckersbach, T, & Rauch, SL. Neural correlates of anxiety sensitivity factors during presentation of masked fearful faces. Abstract presented at the 38<sup>th</sup> Annual Meeting of the International Neuropsychological Society, Acapulco, Mexico, February 3-6, 2010.
148. **Killgore, WD**, Grugle, NL, Conrad, TA, & Balkin, TJ. Baseline executive function abilities predict risky behavior following sleep deprivation. Abstract presented at the 24th Annual Meeting of the Associated Professional Sleep Societies, San Antonio, Texas, June 5-9, 2010.
149. **Killgore, WD**, Grugle, NL, & Balkin, TJ. Judgment of objective vigilance performance is affected by sleep deprivation and stimulants. Abstract presented at the 24th Annual Meeting of the Associated Professional Sleep Societies, San Antonio, Texas, June 5-9, 2010.
150. Killgore, DB, **Killgore, WD**, Grugle, NL, & Balkin, TJ. Resistance to sleep loss and its relationship to decision making during sleep deprivation. Abstract presented at the 24th Annual Meeting of the Associated Professional Sleep Societies, San Antonio, Texas, June 5-9, 2010.
151. Killgore DB, **Killgore, WD**, Grugle, NL, & Balkin, TJ. Subjective sleepiness and objective performance: Differential effects of stimulants during sleep deprivation. Abstract presented at the 24th Annual Meeting of the Associated Professional Sleep Societies, San Antonio, Texas, June 5-9, 2010.
152. Rupp, TL, **Killgore, WD**, & Balkin, TJ. Vulnerability to sleep deprivation is differentially mediated by social exposure in extraverts vs. introverts. Oral presentation at the "Data Blitz" section at the 24th Annual Meeting of the Associated Professional Sleep Societies, San Antonio, Texas, June 5-9, 2010.
153. Rupp, TL, **Killgore, WD**, & Balkin, TJ. Extraverts may be more vulnerable than introverts to

sleep deprivation on some measures of risk-taking and executive functioning. Abstract presented at the 24th Annual Meeting of the Associated Professional Sleep Societies, San Antonio, Texas, June 5-9, 2010.

154. Rupp, TL, **Killgore, WD**, & Balkin, TJ. Vulnerability to sleep deprivation is differentially mediated by social exposure in extraverts vs. introverts. Abstract presented at the 24th Annual Meeting of the Associated Professional Sleep Societies, San Antonio, Texas, June 5-9, 2010.
155. Capaldi, VF, Guerrero, ML, & **Killgore, WD**. Sleep disorders among OIF and OEF Soldiers. Abstract presented at the 24th Annual Meeting of the Associated Professional Sleep Societies, San Antonio, Texas, June 5-9, 2010.
156. **Killgore, WD**, Killgore, DB, Kamimori, GH, & Balkin, TJ. Caffeine reduces behavioral risk-taking during sleep deprivation. Abstract presented at the 65<sup>th</sup> Annual Meeting of the Society for Biological Psychiatry, New Orleans, Louisiana, May 20-22, 2010.
157. **Killgore, WD**, Price, LM, Britton, JC, Simon, N, Pollack, MH, Weiner, MR, Schwab, ZJ, Rosso, IM, & Rauch, SL. Paralimbic responses to masked emotional faces in PTSD: Disorder and valence specificity. Abstract presented at the 65<sup>th</sup> Annual Meeting of the Society for Biological Psychiatry, New Orleans, Louisiana, May 20-22, 2010.
158. Rosso, IM, Makris, N, Britton, JC, Price, LM, Gold, AL, Deckersbach, T, **Killgore, WD**, & Rauch SL. Anxiety sensitivity correlates with insular cortex volume and thickness in specific animal phobia. Abstract presented at the 65<sup>th</sup> Annual Meeting of the Society for Biological Psychiatry, New Orleans, Louisiana, May 20-22, 2010.
159. Rupp, TL, **Killgore, WD**, & Balkin, TJ. Vulnerability to sleep deprivation is mediated by social exposure in extraverts versus introverts. Oral platform presentation at the 20<sup>th</sup> Congress of the European Sleep Research Society, Lisbon, Portugal, September 14-18, 2010.
160. **Killgore, WD**, Estrada, A, & Balkin, TJ. A tool for monitoring soldier fatigue and predicting cognitive readiness: The Sleep History and Readiness Predictor (SHARP). Abstract presented at the 27<sup>th</sup> Army Science Conference, Orlando, FL, November 29-December 2, 2010.
161. **Killgore, WD**, Kamimori, GH, & Balkin, TJ. Caffeinated gum minimizes risk-taking in soldiers during prolonged sleep deprivation. Abstract presented at the 27<sup>th</sup> Army Science Conference, Orlando, FL, November 29-December 2, 2010.
162. **Killgore, WD**, Britton, JC, Schwab, ZJ, Weiner, MR, Rosso, IM, & Rauch, SL. Exaggerated amygdala responses to masked fearful faces are specific to PTSD versus simple phobia. Oral platform presentation at the 27<sup>th</sup> Army Science Conference, Orlando, FL, November 29-December 2, 2010. [***Winner Best Paper in Neuroscience***]
163. **Killgore, WD**, Kamimori, GH, & Balkin, TJ. Sleep deprivation selectively impairs emotional aspects of cognitive functioning. Oral platform presentation at the 27<sup>th</sup> Army Science Conference, Orlando, FL, November 29-December 2, 2010.
164. Rupp, TL, **Killgore, WD**, & Balkin, TJ. Evaluation of personality and social exposure as

individual difference factors influencing response to sleep deprivation. Oral platform presentation at the 27<sup>th</sup> Army Science Conference, Orlando, FL, November 29-December 2, 2010.

165. **Killgore, WD**, Britton, JC, Rosso, IM, Schwab, ZJ, Weiner, MR, & Rauch, SL. Shared and differential patterns of amygdalo-cortical activation across anxiety disorders. Abstract presented at the 49<sup>th</sup> Annual Meeting of the American College of Neuropsychopharmacology, Miami Beach, FL, December 5-9, 2010.
166. Rosso, IM, **Killgore, WD**, Britton, JC, Weiner, MR, Schwab, ZJ, & Rauch, SL. Neural correlates of PTSD symptom dimensions during emotional processing: A functional magnetic resonance imaging study. Abstract presented at the 49<sup>th</sup> Annual Meeting of the American College of Neuropsychopharmacology, Miami Beach, FL, December 5-9, 2010.
167. **Killgore, WD**, Rosso, IM, Britton, JC, Schwab, ZJ, Weiner, MR, & Rauch, SL. Cortico-limbic activation differentiates among anxiety disorders with and without a generalized threat response. Abstract presented at the McLean Hospital Research Day, January 13, 2011.
168. Weiner, MR, Schwab, ZJ, Rauch, SL, & **Killgore WD**. Personality factors predict brain responses to images of high-calorie foods. Abstract presented at the McLean Hospital Research Day, January 13, 2011.
169. Schwab, ZJ, Weiner, MR, Rauch, SL, & **Killgore, WD**. Emotional and cognitive intelligence: Support for the neural efficiency hypothesis. Abstract presented at the McLean Hospital Research Day, January 13, 2011.
170. Crowley, DJ, Covell, MJ, **Killgore, WD**, Schwab, ZJ, Weiner, MR, Acharya, D, Rosso, IM, & Silveri, MM. Differential influence of facial expression on inhibitory capacity in adolescents versus adults. Abstract presented at the McLean Hospital Research Day, January 13, 2011.
171. **Killgore, WD**, Britton, JC, Rosso, IM, Schwab, ZJ, Weiner, MR, & Rauch, SL. Similarities and differences in cortico-limbic responses to masked affect probes across anxiety disorders. Abstract presented at the 39<sup>th</sup> Annual Meeting of the International Neuropsychological Society, Boston, MA, February 2-5, 2011.
172. Rosso, IM, **Killgore, WD**, Britton, JC, Weiner, MR, Schwab, ZJ, & Rauch, SL. Hyperarousal and reexperiencing symptoms of post-traumatic stress disorder are differentially associated with limbic-prefrontal brain responses to threatening stimuli. Abstract presented at the 39<sup>th</sup> Annual Meeting of the International Neuropsychological Society, Boston, MA, February 2-5, 2011.
173. Schwab, ZJ, Weiner, MR, Rauch, SL, & **Killgore, WD**. Neural correlates of cognitive and emotional intelligence in adults. Abstract presented at the 39<sup>th</sup> Annual Meeting of the International Neuropsychological Society, Boston, MA, February 2-5, 2011.
174. Schwab, ZJ, Weiner, MR, Rauch, SL, & **Killgore, WD**. Cognitive and emotional intelligences: Are they distinct or related constructs? Abstract presented at the 39<sup>th</sup> Annual Meeting of the International Neuropsychological Society, Boston, MA, February 2-5, 2011.



175. Schwab, ZJ, Weiner, MR, Rauch, SL, & **Killgore, WD**. Discrepancy scores between cognitive and emotional intelligence predict neural responses to affective stimuli. Abstract presented at the 39th Annual Meeting of the International Neuropsychological Society, Boston, MA, February 2-5, 2011.
176. **Killgore, WD**, Schwab, ZJ, Weiner, MR, & Rauch, SL. Smart people go with their gut: Emotional intelligence correlates with non-conscious insular responses to facial trustworthiness. Abstract presented at the 39th Annual Meeting of the International Neuropsychological Society, Boston, MA, February 2-5, 2011.
177. **Killgore, WD**, Weiner, MR, Schwab, ZJ, & Rauch, SL. Whom can you trust? Neural correlates of subliminal perception of facial trustworthiness. Abstract presented at the 39th Annual Meeting of the International Neuropsychological Society, Boston, MA, February 2-5, 2011.
178. Weiner, MR, Schwab, ZJ, & Rauch, SL, **Killgore, WD**. Impulsiveness predicts responses of brain reward circuitry to high-calorie foods. Abstract presented at the 39th Annual Meeting of the International Neuropsychological Society, Boston, MA, February 2-5, 2011.
179. Weiner, MR, Schwab, ZJ, & Rauch, SL, **Killgore, WD**. Conscientiousness predicts brain responses to images of high-calorie foods. Abstract presented at the 39th Annual Meeting of the International Neuropsychological Society, Boston, MA, February 2-5, 2011.
180. Crowley, DJ, Covell, MJ, **Killgore, WD**, Schwab, ZJ, Weiner, MR, Acharya, D, Rosso, IM, & Silveri, MM. Differential influence of facial expression on inhibitory capacity in adolescents versus adults. Abstract presented at the 39th Annual Meeting of the International Neuropsychological Society, Boston, MA, February 2-5, 2011.
181. Gruber, SA, Dahlgren, MK, **Killgore, WD**, Sagar, KA, & Racine, MT. Marijuana: Age of onset of use impacts executive function and brain activation. Abstract presented at the 39th Annual Meeting of the International Neuropsychological Society, Boston, MA, February 2-5, 2011.
182. **Killgore, WD**, Conrad, TA, Grugle, NL, & Balkin, TJ. Baseline executive function abilities correlate with risky behavior following sleep deprivation. Abstract presented at the 39th Annual Meeting of the International Neuropsychological Society, Boston, MA, February 2-5, 2011.
183. **Killgore, WD**, Grugle, NL, Killgore, DB, & Balkin, TJ. Resistance to sleep loss and decision making during sleep deprivation. Abstract presented at the 39th Annual Meeting of the International Neuropsychological Society, Boston, MA, February 2-5, 2011.
184. **Killgore, WD**, Rosso, IM, Britton, JC, Schwab, ZJ, Weiner, MR, & Rauch, SL. Cortico-limbic activation differentiates among anxiety disorders with and without a generalized threat response. Abstract presented at the 66<sup>th</sup> Annual Meeting of the Society for Biological Psychiatry, San Francisco, CA, May 12-14, 2011. [*\*Blue Ribbon Finalist: Clinical/Translational*]
185. Schwab, ZJ, Weiner, MR, Rauch, SL, & **Killgore, WD**. Emotional and cognitive intelligence:

Support for the neural efficiency hypothesis. Abstract presented at the 66<sup>th</sup> Annual Meeting of the Society for Biological Psychiatry, San Francisco, CA, May 12-14, 2011.

186. Weiner, MR, Schwab, ZJ, Rauch, SL, & **Killgore WD**. Personality factors predict brain responses to images of high-calorie foods. Abstract presented at the 66<sup>th</sup> Annual Meeting of the Society for Biological Psychiatry, San Francisco, CA, May 12-14, 2011.
187. **Killgore, WD**, Grugle, NL, & Balkin, TJ. Sleep deprivation impairs recognition of specific emotions. Abstract presented at the 25<sup>th</sup> Annual Meeting of the Associated Professional Sleep Societies, Minneapolis, MN, June 11-15, 2011.
188. **Killgore, WD**, & Balkin, TJ. Does vulnerability to sleep deprivation influence the effectiveness of stimulants on psychomotor vigilance? Abstract presented at the 25<sup>th</sup> Annual Meeting of the Associated Professional Sleep Societies, Minneapolis, MN, June 11-15, 2011.
189. Killgore, DB, **Killgore, WD**, Grugle, NJ, & Balkin, TJ. Sleep deprivation impairs recognition of specific emotions. Abstract presented at the 25<sup>th</sup> Annual Meeting of the Associated Professional Sleep Societies, Minneapolis, MN, June 11-15, 2011.
190. Weiner, MR, Schwab, ZJ, & **Killgore, WD**. Daytime sleepiness is associated with altered brain activation during visual perception of high-calorie foods: An fMRI study. Abstract presented at the 25<sup>th</sup> Annual Meeting of the Associated Professional Sleep Societies, Minneapolis, MN, June 11-15, 2011.
191. Schwab, ZJ, Weiner, MR, & **Killgore, WD**. Functional MRI correlates of morningness-eveningness during visual presentation of high calorie foods. Abstract presented at the 25<sup>th</sup> Annual Meeting of the Associated Professional Sleep Societies, Minneapolis, MN, June 11-15, 2011.
192. **Killgore, WD**, Weiner, MR, & Schwab, ZJ. Daytime sleepiness affects prefrontal regulation of food intake. Abstract presented at the McLean Hospital Research Day, January 11, 2012.
193. Kipman, M, Schwab ZJ, Weiner, MR, DelDonno, S, Rauch SL, & **Killgore WD**. The insightful yet bitter comedian: The role of emotional versus cognitive intelligence in humor appreciation. Abstract presented at the McLean Hospital Research Day, January 11, 2012.
194. Weber, M, & **Killgore, WD**. Gray matter correlates of emotional intelligence. Abstract presented at the McLean Hospital Research Day, January 11, 2012.
195. Schwab, ZJ, & **Killgore, WD**. Sex differences in functional brain responses to food. Abstract presented at the McLean Hospital Research Day, January 11, 2012.
196. DelDonno, S, Schwab, ZJ, Kipman M, Rauch, SL, & **Killgore, WD**. The influence of cognitive and emotional intelligence on performance on the Iowa Gambling Task. Abstract presented at the McLean Hospital Research Day, January 11, 2012.
197. Song, CH, Kizielewicz, J, Schwab, ZJ, Weiner, MR, Rauch, SL, & **Killgore, WD**. Time is of the essence: The Design Organization Test as a valid, reliable, and brief measure of visuospatial

ability. Abstract presented at the 40th Annual Meeting of the International Neuropsychological Society, Montreal, CA, February 15-18, 2012.

198. Kipman, M, Schwab, ZJ, DelDonno, S, & **Killgore, WD**. Gender differences in the contribution of cognitive and emotional intelligence to the left visual field bias for facial perception. Abstract presented at the 40th Annual Meeting of the International Neuropsychological Society, Montreal, CA, February 15-18, 2012.
199. Kipman, M., Schwab, ZJ, Weiner, MR, DelDonno, S, Rauch, SL, & **Killgore, WD**. Contributions of emotional versus cognitive intelligence in humor appreciation. Abstract presented at the 40th Annual Meeting of the International Neuropsychological Society, Montreal, CA, February 15-18, 2012.
200. Schwab, ZJ, & **Killgore, WD**. Disentangling emotional and cognitive intelligence. Abstract presented at the 40th Annual Meeting of the International Neuropsychological Society, Montreal, CA, February 15-18, 2012.
201. Schwab, ZJ, & **Killgore, WD**. Sex differences in functional brain responses to food. Abstract presented at the 40th Annual Meeting of the International Neuropsychological Society, Montreal, CA, February 15-18, 2012.
202. DelDonno, S, Schwab, ZJ, Kipman, M, Rauch, SL, & **Killgore, WD**. The influence of cognitive and emotional intelligence on performance on the Iowa Gambling Task. Abstract presented at the 40th Annual Meeting of the International Neuropsychological Society, Montreal, CA, February 15-18, 2012.
203. **Killgore, WD**, Britton, JC, Rosso, IM, Schwab, ZJ, Weiner, MR, & Rauch, SL. Shared and unique patterns of cortico-limbic activation across anxiety disorders. Abstract presented at the 40th Annual Meeting of the International Neuropsychological Society, Montreal, CA, February 15-18, 2012.
204. **Killgore, WD**, & Balkin, TJ. Sleep deprivation degrades recognition of specific emotions. Abstract presented at the 40th Annual Meeting of the International Neuropsychological Society, Montreal, CA, February 15-18, 2012.
205. **Killgore, WD**, & Schwab, ZJ. Emotional intelligence correlates with somatic marker circuitry responses to subliminal cues of facial trustworthiness. Abstract presented at the 40th Annual Meeting of the International Neuropsychological Society, Montreal, CA, February 15-18, 2012.
206. **Killgore, WD**, & Schwab, ZJ. Trust me! Neural correlates of the ability to identify facial trustworthiness. Abstract presented at the 40th Annual Meeting of the International Neuropsychological Society, Montreal, CA, February 15-18, 2012.
207. **Killgore, WD**, Schwab, ZJ, Weiner, MR, Kipman, M, DelDonno, S, & Rauch SL. Overeating is associated with altered cortico-limbic responses to images of high calorie foods. Abstract presented at the 40th Annual Meeting of the International Neuropsychological Society, Montreal, CA, February 15-18, 2012.

208. **Killgore, WD**, Weiner, MR, & Schwab, ZJ. Daytime sleepiness affects prefrontal regulation of food intake. Abstract presented at the 40th Annual Meeting of the International Neuropsychological Society, Montreal, CA, February 15-18, 2012.
209. Weber, M, DelDonno, S, Kipman M, Schwab, ZJ, & **Killgore WD**. Grey matter correlates of self-reported sleep duration. Abstract presented at the Harvard Medical School Research Day, Boston, MA, March 28, 2012.
210. **Killgore, WD**. Overlapping and distinct patterns of neurocircuitry across PTSD, Panic Disorder, and Simple Phobia. Abstract presented at the 32nd Annual Conference of the Anxiety Disorders Association of America, Arlington, VA, April 12-15, 2012.
211. **Killgore, WD**, Britton, JC, Rosso, IM, Schwab, ZJ, & Rauch, SL. Shared and unique patterns of cortico-limbic activation across anxiety disorders. Abstract presented at the 67<sup>th</sup> Annual Meeting of the Society of Biological Psychiatry, Philadelphia, PA, May 3-5, 2012.
212. **Killgore, WD**, Schwab, ZJ, & Rauch, SL. Daytime sleepiness affects prefrontal inhibition of food consumption. Abstract presented at the 67<sup>th</sup> Annual Meeting of the Society of Biological Psychiatry, Philadelphia, PA, May 3-5, 2012.
213. Rosso, IM, Britton, JC, Makris, N, **Killgore, WD**, Rauch SL, & Stewart ES. Impact of major depression comorbidity on prefrontal and anterior cingulate volumes in pediatric OCD. Abstract presented at the 67<sup>th</sup> Annual Meeting of the Society of Biological Psychiatry, Philadelphia, PA, May 3-5, 2012.
214. Kipman, M, Weber, M, DelDonno, S., Schwab, ZJ, & **Killgore, WD**. Morningness-Eveningness correlates with orbitofrontal gray matter volume. Abstract presented at the 26<sup>th</sup> Annual Meeting of the Associated Professional Sleep Societies, Boston, MA, June 9-13, 2012.
215. Kipman, M, Schwab, ZJ, Weber, M, DelDonno, S, & **Killgore, WD**. Yawning frequency is correlated with reduced medial thalamic volume. Abstract presented at the 26<sup>th</sup> Annual Meeting of the Associated Professional Sleep Societies, Boston, MA, June 9-13, 2012.
216. Weber, M, DelDonno, S, Kipman M, Schwab, ZJ, & **Killgore WD**. Grey matter correlates of daytime sleepiness. Abstract presented at the 26<sup>th</sup> Annual Meeting of the Associated Professional Sleep Societies, Boston, MA, June 9-13, 2012.
217. Weber, M, DelDonno, S, Kipman M, Schwab, ZJ, & **Killgore WD**. Grey matter correlates of self-reported sleep duration. Abstract presented at the 26<sup>th</sup> Annual Meeting of the Associated Professional Sleep Societies, Boston, MA, June 9-13, 2012.
218. DelDonno, S, Weber, M, Kipman M, Schwab, ZJ, & **Killgore, WD**. Resistance to insufficient sleep correlates with olfactory cortex gray matter. Abstract presented at the 26<sup>th</sup> Annual Meeting of the Associated Professional Sleep Societies, Boston, MA, June 9-13, 2012.
219. DelDonno, S, Schwab, ZJ, Kipman, M, Weber, M, & **Killgore, WD**. Weekend sleep is related to greater coping and resilience capacities. Abstract presented at the 26<sup>th</sup> Annual Meeting of the

Associated Professional Sleep Societies, Boston, MA, June 9-13, 2012.

220. Schwab, ZJ, DelDonno, S, Weber, M, Kipman M, & **Killgore, WD**. Habitual caffeine consumption and cerebral gray matter volume. Abstract presented at the 26<sup>th</sup> Annual Meeting of the Associated Professional Sleep Societies, Boston, MA, June 9-13, 2012.
221. Schwab, ZJ, & **Killgore, WD**. Daytime sleepiness affects prefrontal regulation of food intake. Abstract presented at the 26<sup>th</sup> Annual Meeting of the Associated Professional Sleep Societies, Boston, MA, June 9-13, 2012.
222. **Killgore, WD**, Schwab, ZJ, DelDonno S, Kipman, M, Weber M, & Rauch, SL. Greater nocturnal sleep time is associated with increased default mode functional connectivity. Abstract presented at the 26<sup>th</sup> Annual Meeting of the Associated Professional Sleep Societies, Boston, MA, June 9-13, 2012.
223. **Killgore, WD**, Kamimori, GH, & Balkin, TJ. Caffeine improves efficiency of planning and sequencing abilities during sleep deprivation. Abstract presented at the 26<sup>th</sup> Annual Meeting of the Associated Professional Sleep Societies, Boston, MA, June 9-13, 2012.
224. Sneider, JT, **Killgore, WD**, Crowley, DJ, Cohen-Gilbert, JE, Schwab, ZJ, & Silveri, MM. Inhibitory capacity in emerging adult binge drinkers: Influence of Facial Cues. Abstract presented at the 35<sup>th</sup> Annual Scientific Meeting of the Research Society on Alcoholism, San Francisco, CA, June 23-27, 2012.
225. **Killgore WD**. Multimodal neuroimaging to predict cognitive resilience against sleep loss. Abstract presented at the DARPA Young Faculty Award 2012 Meeting, Arlington, VA, July 30-31, 2012. [*\*Winner Young Faculty Award in Neuroscience*]
226. Cohen-Gilbert, JE, **Killgore WD**, Crowley, DJ, Covell, MJ, Schwab, ZJ, Weiner, MR, Acharya, D, Sneider, JT, & Silveri, MM. Differential influence of safe versus threatening facial expressions on inhibitory control across adolescence and adulthood. Abstract presented at the Society for Neuroscience 2012 Meeting, New Orleans, LA, October 13-17, 2012.
227. Weber, M, DelDonno, S, Kipman M, Schwab, ZJ, & **Killgore WD**. Grey matter correlates of self-reported sleep duration. Abstract presented at the Harvard Division of Sleep Medicine Annual Poster Session, Boston, MA, September 27, 2012.
228. Weber, M, DelDonno, SR, Kipman, M, Preer, LA, Schwab ZJ, Weiner, MR, & **Killgore, WD**. The effect of morning bright light therapy on sleep, cognition and emotion following mild traumatic brain injury. Abstract accepted for poster presentation at the 2012 Sleep Research Network Meeting, 22-23 October 2012, Bethesda, MD.
229. Sneider, JT, **Killgore, WD**, Crowley, DJ, Cohen-Gilbert, JE, Schwab, ZJ, & Silveri, MM. Inhibitory capacity in emerging adult binge drinkers: Influence of Facial Cues. Abstract presented at the Annual McLean Hospital Research Day, January 16, 2013.
230. Cohen-Gilbert, JE, **Killgore WD**, Crowley, DJ, Covell, MJ, Schwab, ZJ, Weiner, MR, Acharya, D, Sneider, JT, & Silveri, MM. Differential influence of safe versus threatening facial

expressions on inhibitory control across adolescence and adulthood. Abstract presented at the Annual McLean Hospital Research Day, January 16, 2013.

231. Tkachenko, O, Schwab, ZJ, Kipman, M, DelDonno, S, Gogel, H., Preer, L, & **Killgore, WD**. Smarter women need less sleep. Abstract presented at the Annual McLean Hospital Research Day, January 16, 2013.
232. DelDonno, S, Kipman, M, Schwab, ZJ, & **Killgore, WD**. The contributions of emotional intelligence and facial perception to social intuition. Abstract presented at the Annual McLean Hospital Research Day, January 16, 2013.
233. Kipman, M, Schwab, ZJ, DelDonno, S, Weber, M, Rauch, SL, & **Killgore, WD**. The neurocircuitry of impulsive behavior. Abstract presented at the Annual McLean Hospital Research Day, January 16, 2013.
234. Preer, LA, Tkachenko, O, Gogel, H, Schwab, ZJ, Kipman, M, DelDonno, SR, Weber, M, Webb, CA, & **Killgore, WD**. Emotional intelligence as a mediator of the association between anxiety sensitivity and anxiety symptoms. Abstract presented at the Annual McLean Hospital Research Day, January 16, 2013.
235. Gogel, H, DelDonno, S, Kipman M, Preer, LA, Schwab, ZJ, Tkachenko, O, & **Killgore, WD**. Validation of the Design Organization Test (DOT) in a healthy population. Abstract presented at the Annual McLean Hospital Research Day, January 16, 2013.
236. Brennan, BP, Schwab, ZS, Athey, AJ, Ryan, EM, Pope, HG, **Killgore, WD**, Jenike, MA, & Rauch, SL. A functional magnetic resonance imaging study of rostral anterior cingulate cortex activation in obsessive-compulsive disorder using an emotional counting stroop paradigm. Abstract presented at the Annual McLean Hospital Research Day, January 16, 2013.
237. Cohen-Gilbert, JE, Schwab, ZJ, **Killgore, WD**, Crowley, DJ, & Silveri MM. Influence of Binge Drinking on the Neural Correlates of Inhibitory Control during Emotional Distraction in Young Adults. Abstract presented at the 3<sup>rd</sup> International Conference on Applications of Neuroimaging to Alcoholism (ICANA-3), New Haven, CT, February 15-18, 2013.
238. Weber, M, & **Killgore, WD**. The interrelationship between ‘sleep credit’, emotional intelligence and mental health – a voxel-based morphometric study. Abstract presented at Harvard Medical School Psychiatry Research Day, April 10, 2013.
239. Cohen-Gilbert, JE, Schwab, ZJ, **Killgore, WD**, Crowley, DJ, & Silveri MM. Influence of Binge Drinking on the Neural Correlates of Inhibitory Control during Emotional Distraction in Young Adults. Abstract presented at Harvard Medical School Psychiatry Research Day, April 10, 2013.
240. Mundy, EA, Weber, M, Rauch, SL, **Killgore, WD**, & Rosso, IM. The relationship between subjective stress levels in childhood and anxiety as well as perceived stress as an adult. Abstract presented at Harvard Medical School Psychiatry Research Day, April 10, 2013.
241. Webb, CA, **Killgore, WD**, Britton, JC, Schwab, ZJ, Price, LM, Weiner, MR, Gold, AL, Rosso,

- IM, Simon, NM, Pollack, MH, & Rauch, SL. Comparing categorical versus dimensional predictors of functional response across three anxiety disorders. Abstract presented at the 68<sup>th</sup> Annual Meeting of the Society of Biological Psychiatry, San Francisco, CA, May 16-18, 2013.
242. Preer, LA, Tkachenko, O, Gogel, H, Schwab, ZJ, Kipman, M, DelDonno, SR, Weber, M, Webb, CA, Rauch, SL, & **Killgore, WD**. Linking Sleep Trouble to Neuroticism, Emotional Control, and Impulsiveness. Abstract presented at the 68<sup>th</sup> Annual Meeting of the Society of Biological Psychiatry, San Francisco, CA, May 16-18, 2013.
  243. Preer, LA, Tkachenko, O, Gogel, H, Schwab, ZJ, Kipman, M, DelDonno, SR, Weber, M, Webb, CA, Rauch, SL, & **Killgore, WD**. Emotional Intelligence as a Mediator of the Association between Anxiety Sensitivity and Anxiety Symptoms. Abstract presented at the 68<sup>th</sup> Annual Meeting of the Society of Biological Psychiatry, San Francisco, CA, May 16-18, 2013.
  244. Kipman, M, Schwab, ZJ, DelDonno, S, Weber, M, Rauch, SL, & **Killgore, WD**. The neurocircuitry of impulsive behavior. Abstract presented at the 68<sup>th</sup> Annual Meeting of the Society of Biological Psychiatry, San Francisco, CA, May 16-18, 2013.
  245. Weber, M, **Killgore, WD**, Rosso, IM, Britton, JC, Simon, NM, Pollack, MH, & Rauch, SL. Gray matter correlates of posttraumatic stress disorder—A voxel based morphometry study. Abstract presented at the 68<sup>th</sup> Annual Meeting of the Society of Biological Psychiatry, San Francisco, CA, May 16-18, 2013.
  246. Weber, M, Penetar, DM, Trksak, GH, DelDonno, SR, Kipman, M, Schwab, ZJ, & **Killgore, WD**. Morning blue wavelength light therapy improves sleep, cognition, emotion and brain function following mild traumatic brain injury. Abstract presented at the 68<sup>th</sup> Annual Meeting of the Society of Biological Psychiatry, San Francisco, CA, May 16-18, 2013.
  247. Tkachenko, O, Schwab, ZJ, Kipman, M, Preer, LA, Gogel, H, DelDonno, SR, Weber, M, Webb, CA, Rauch, SL, & **Killgore, WD**. Difficulty in falling asleep and staying asleep linked to a sub-clinical increase in symptoms of psychopathology. Abstract presented at the 68<sup>th</sup> Annual Meeting of the Society of Biological Psychiatry, San Francisco, CA, May 16-18, 2013.
  248. **Killgore, WD**, Schwab, ZJ, Kipman, M, DelDonno, SR, Rauch, SL, & Weber, M. Problems with sleep initiation and sleep maintenance correlate with functional connectivity among primary sensory cortices. Abstract presented at the 68<sup>th</sup> Annual Meeting of the Society of Biological Psychiatry, San Francisco, CA, May 16-18, 2013.
  249. **Killgore, WD**, Schwab, ZJ, Kipman, M, DelDonno, SR, Rauch, SL, & Weber, M. A Couple of Hours Can Make a Difference: Self-Reported Sleep Correlates with Prefrontal-Amygdala Connectivity and Emotional Functioning. Abstract presented at the 68<sup>th</sup> Annual Meeting of the Society of Biological Psychiatry, San Francisco, CA, May 16-18, 2013.
  250. Brennan, BP, Schwab, ZS, Athey, AJ, Ryan, EM, Pope, HG, **Killgore, WD**, Jenike, MA, & Rauch, SL. A functional magnetic resonance imaging study of rostral anterior cingulate cortex activation in obsessive-compulsive disorder using an emotional counting stroop paradigm. Abstract presented at the 68<sup>th</sup> Annual Meeting of the Society of Biological Psychiatry, San Francisco, CA, May 16-18, 2013.

251. Weber, M, & **Killgore, WD**. The interrelationship between ‘sleep credit’, emotional intelligence and mental health – a voxel-based morphometric study. Abstract presented at the SLEEP 2013 Annual Meeting, Baltimore, MD, June 1-5, 2013.
252. Weber, M, Penetar, DM, Trksak, GH, DelDonno, SR, Kipman, M, Schwab, ZJ, & **Killgore, WD**. Morning blue wavelength light therapy improves sleep, cognition, emotion and brain function following mild traumatic brain injury. Abstract presented at the SLEEP 2013 Annual Meeting, Baltimore, MD, June 1-5, 2013.
253. **Killgore, WD**, Schwab, ZJ, Kipman, M, DelDonno, SR, & Weber, M. Problems with Sleep Initiation and Sleep Maintenance Correlate with Functional Connectivity Among Primary Sensory Cortices. Abstract presented at the SLEEP 2013 Annual Meeting, Baltimore, MD, June 1-5, 2013.
254. **Killgore, WD**, Schwab, ZJ, Kipman, M, DelDonno, SR, & Weber, M. A Couple of Hours Can Make a Difference: Self-Reported Sleep Correlates with Prefrontal-Amygdala Connectivity and Emotional Functioning. Abstract presented at the SLEEP 2013 Annual Meeting, Baltimore, MD, June 1-5, 2013.
255. Tkachenko, O, Schwab, ZJ, Kipman, M, DelDonno, SR, Preer, LA, Gogel, H, Weber, M, Webb, CA, & **Killgore, WD**. Difficulty in falling asleep and staying asleep linked to a sub-clinical increase in symptoms of psychopathology. Abstract presented at the SLEEP 2013 Annual Meeting, Baltimore, MD, June 1-5, 2013.
256. Preer, LA, Tkachenko, O, Gogel, H, Schwab, ZJ, Kipman, M, DelDonno, SR, Weber, M, Webb, CA, & **Killgore, WD**. Linking Sleep Initiation Trouble to Neuroticism, Emotional Control, and Impulsiveness. Abstract presented at the SLEEP 2013 Annual Meeting, Baltimore, MD, June 1-5, 2013.
257. **Killgore, WD**. Sleep duration contributes to cortico-limbic functional connectivity, emotional functioning, & psychological health. Abstract accepted for presentation at the 52<sup>nd</sup> Annual Meeting of the American College of Neuropsychopharmacology, Hollywood, FL, December 8-12, 2013.
258. Preer, L, Tkachenko, O, Gogel, H, Bark, JS, Kipman, M, Olson, EA, & **Killgore, WD**. The role of personality in sleep initiation problems. Abstract presented at the Annual McLean Hospital Research Day, January 22, 2014.
259. Demers, LA, Olson, EA, Weber, M, Divatia, S, Preer, L, & **Killgore, WD**. Paranoid traits are related to deficits in complex social decision-making and reduced superior temporal sulcus volume. Abstract presented at the Annual McLean Hospital Research Day, January 22, 2014.
260. Tkachenko, O, Weber, M, Gogel, H, & **Killgore, WD**. Predisposition towards unhealthy foods linked with increased gray matter in the cerebellum. Abstract presented at the Annual McLean Hospital Research Day, January 22, 2014.
261. Olson, EA, Weber, M, Tkachenko, O, & **Killgore, WD**. Daytime sleepiness is associated with



decreased integration of remote outcomes on the IGT. Abstract presented at the Annual McLean Hospital Research Day, January 22, 2014.

262. Cui, J, Tkachenko, O, & **Killgore, WD**. Can the activation of anterior cingulate predict the emotional suppression? An fMRI study with masked faces. Abstract presented at the Annual McLean Hospital Research Day, January 22, 2014.
263. Gogel, H, & **Killgore WDS**. A psychometric validation of the Design Organization Test (DOT) in a healthy sample. Abstract presented at the 42nd Annual Meeting of the International Neuropsychological Society, Seattle WA, February 12-15, 2014.
264. **Killgore, WD**, Kipman, M, Tkachenko, O, Gogel, H., Preer, L, Demers, LA, Divatia, SC, Olson, EA, & Weber, M. Predicting resilience against sleep loss with multi-modal neuroimaging. Abstract presented at the 42nd Annual Meeting of the International Neuropsychological Society, Seattle WA, February 12-15, 2014.
265. **Killgore, WD**, Weber, M, Bark, JS, Kipman, M, Gogel, H, Preer, L, Tkachenko, O, Demers, LA, Divatia, SC, & Olson, EA. Physical exercise correlates with hippocampal volume in healthy adults. Abstract presented at the 42nd Annual Meeting of the International Neuropsychological Society, Seattle WA, February 12-15, 2014.
266. **Killgore, WD**, Tkachenko, O, Weber, M, Kipman, M, Preer, L, Gogel, H, & Olson, EA. The association between sleep, functional connectivity, and emotional functioning. Abstract presented at the 42nd Annual Meeting of the International Neuropsychological Society, Seattle WA, February 12-15, 2014.
267. Preer, L, Tkachenko, O, Gogel, H, Bark, JS, Kipman, M, Olson, EA, & **Killgore, WD**. The role of personality in sleep initiation problems. Abstract presented at the 42nd Annual Meeting of the International Neuropsychological Society, Seattle WA, February 12-15, 2014.
268. Tkachenko, O, Weber, M, Olson, EA, Gogel, H, Preer, LA, Divatia, SC, Demers, LA, & **Killgore, WD**. Gray matter volume within the medial prefrontal cortex correlates with behavioral risk taking. Abstract presented at the 42nd Annual Meeting of the International Neuropsychological Society, Seattle WA, February 12-15, 2014.
269. Olson, EA, Weber, M, Bark JS, Demers L, Divatia, SC, Gogel, H, Kipman M, Preer, L, Tkachenko, O, & **Killgore, WD**. Sex differences in threat evaluation of emotionally neutral faces. Abstract presented at the 42nd Annual Meeting of the International Neuropsychological Society, Seattle WA, February 12-15, 2014.
270. Cui, J, Tkachenko, O, & **Killgore, WD**. Can the activation of anterior cingulate predict the emotional suppression? An fMRI study with masked faces. Abstract presented at the 36nd Annual Conference of the Anxiety Disorders Association of America, Chicago, IL, March 27-30, 2014.
271. Webb, CA, Weber, M, Mundy, EA, & **Killgore, WD**. Reduced gray matter volume in the anterior cingulate, orbitofrontal cortex and thalamus as a function of depressive symptoms: A voxel-based morphometric analysis. Abstract presented at the 36nd Annual Conference of the

Anxiety Disorders Association of America, Chicago, IL, March 27-30, 2014.

- 272. Weber, M, Penetar, DM, Trksak, GH, Kipman, M, Tkachenko, O, Bark, JS, Jorgensen, AL, Rauch, SL, & **Killgore, WD**. Light therapy may improve sleep and facilitate recovery from mild traumatic brain injury. Abstract presented at the 10<sup>th</sup> World Congress on Brain Injury, San Francisco, CA, March 19-22, 2014.
- 273. Cui, J, Tkachenko, O, & **Killgore, WD**. Can the activation of anterior cingulate predict the emotional suppression? An fMRI study with masked faces. Abstract presented at the 21st Annual Meeting of the Cognitive Neuroscience Society, Boston, MA, April 5-8, 2014.
- 274. Divatia, S, Demers, LA, Preer, L, Olson, EA, Weber, M, & **Killgore, WD**. Advantageous decision making linked with increased gray matter volume in the ventromedial prefrontal cortex. Abstract presented at the 21st Annual Meeting of the Cognitive Neuroscience Society, Boston, MA, April 5-8, 2014.
- 275. Demers, LA, Olson, EA, Weber, M, Divatia, S, Preer, L, & **Killgore, WD**. Paranoid traits are related to deficits in complex social decision making and reduced superior temporal sulcus volume. Abstract presented at the 21st Annual Meeting of the Cognitive Neuroscience Society, Boston, MA, April 5-8, 2014.
- 276. Preer, LA, Weber, M, Tkachenko, O, Divatia, S, Demers, LA, Olson, EA, & **Killgore, WD**. Gray matter volume in the amygdala is associated with facial assessments of trustworthiness. Abstract presented at the 21st Annual Meeting of the Cognitive Neuroscience Society, Boston, MA, April 5-8, 2014.
- 277. Tkachenko, O, Weber, M, Gogel, H, & **Killgore, WD**. Predisposition towards unhealthy foods linked with increased gray matter volume in the cerebellum. Abstract presented at the 21st Annual Meeting of the Cognitive Neuroscience Society, Boston, MA, April 5-8, 2014.
- 278. Olson, EA, Weber, M, Gogel, H, & **Killgore, WD**. Daytime sleepiness is associated with decreased integration of remote outcomes on the IGT. Abstract presented at the 21st Annual Meeting of the Cognitive Neuroscience Society, Boston, MA, April 5-8, 2014.
- 279. Demers, LA, Preer, LA, Gogel, H, Olson, EA, Weber, M, & **Killgore, WD**. Left-hemifield bias on sad chimeric face task correlates with interpersonal emotional intelligence. Abstract presented at the 69th Annual Meeting of the Society of Biological Psychiatry, New York, NY, May 8-10, 2014.
- 280. Weber, M, **Killgore, WD**, Olson, EA, Rosso, IM, & Rauch, SL. Morphological brain network organization in relation to trauma and posttraumatic stress disorder. Abstract presented at the 69th Annual Meeting of the Society of Biological Psychiatry, New York, NY, May 8-10, 2014.
- 281. Divatia, S, Demers, LA, Preer, L, Gogel, H, Kipman, M, & **Killgore, WD**. Schizotypal and manic traits are associated with poorer perception of emotions in healthy individuals. Abstract presented at the 69th Annual Meeting of the Society of Biological Psychiatry, New York, NY, May 8-10, 2014.

282. **Killgore, WD**, Weber, M, Olson, EA, & Rauch, SL. Sleep reduction and functioning of the emotion regulation circuitry. Abstract presented at the 69th Annual Meeting of the Society of Biological Psychiatry, New York, NY, May 8-10, 2014. [*\*Blue Ribbon Finalist for Top Poster Award: Basic Neuroscience*]
283. Webb, CA, Weber, M, Mundy, EA, & **Killgore, WD**. Reduced gray matter volume in the anterior cingulate, orbitofrontal cortex and thalamus as a function of depressive symptoms: A voxel-based morphometric analysis. Abstract presented at the 69th Annual Meeting of the Society of Biological Psychiatry, New York, NY, May 8-10, 2014.
284. Marin MF, Song H, Landau AJ, Lasko NB, Foy Preer LA, Campbell A, Pace-Schott EF, **Killgore WD**, Orr SP, Pitman RK, Simon NM, Milad MR (2014). Psychophysiological and Neuroimaging Correlates of Fear Extinction Deficits Across Anxiety Disorders. Abstract presented at the 69th Annual Meeting of the Society of Biological Psychiatry, New York, NY, May 8-10, 2014.
285. **Killgore, WD**. The effects of sleep loss on food preference. Abstract presented at SLEEP 2014, Minneapolis, MN, May 31-June 4, 2014.
286. Weber, M, & **Killgore, WD**. Sleep habits reflect in functional brain network organization. Abstract presented at SLEEP 2014, Minneapolis, MN, May 31-June 4, 2014. [*\*2014 AASM Young Investigator Award, Honorable Mention*]
287. Freed, MC, Novak, LA, **Killgore, WD**, Koehlmoos, TP, Ginsberg, JP, Krupnick, J, Rauch S, Rizzo, A, Engle, CC. DoD IRB delays: Do they really matter? And if so, why and for whom? Abstract presented at the Military Health System Research Symposium, Fort Lauderdale, FL, August 18-21, 2014.
288. Freed, MC, Novak, LA, **Killgore, WD**, Koehlmoos, TP, Ginsberg, JP, Krupnick, J, Rauch S, Rizzo, A, Engle, CC. DoD IRB delays: Do they really matter? And if so, why and for whom? Abstract accepted for presentation at the AMSUS Annual Meeting, Washington DC, December 2-5, 2014.
289. **Killgore, WD**, Demers, LA, Olson, EA, Rosso, IM, Webb, CA, & Rauch, SL. Anterior cingulate gyrus and sulcus thickness: A potential predictor of remission following internet-based cognitive behavioral therapy for major depressive disorder. Abstract accepted for presentation at the 53<sup>rd</sup> Annual Meeting of the American College of Neuropsychopharmacology, Phoenix, AZ, December 7-11, 2014.
290. Olson, EA, Buchholz, J, Rosso, IM, **Killgore, WD**, Webb, CA, Gogel, H, & Rauch, SL. Internet-based cognitive behavioral therapy effects on symptom severity in major depressive disorder: preliminary results from a randomized controlled trial. Abstract accepted for presentation at the 53<sup>rd</sup> Annual Meeting of the American College of Neuropsychopharmacology, Phoenix, AZ, December 7-11, 2014.
291. Brennan, B, Tkachenko, O, Schwab, Z, Ryan, E, Athey, A, Pope, H, Dougherty, D, Jenike, M, **Killgore, WD**, Hudson, J, Jensen, E, & Rauch SL. Abstract accepted for presentation at the

53<sup>rd</sup> Annual Meeting of the American College of Neuropsychopharmacology, Phoenix, AZ, December 7-11, 2014.

- 292. Alkozei, A, Pisner, D, & **Killgore, WD**. Emotional intelligence is differentially correlated with prefrontal cortical responses to backward masked fearful and angry faces. Abstract accepted for presentation at the 43<sup>rd</sup> Annual Meeting of the International Neuropsychological Society, Denver, CO, February 4-7, 2015.
- 293. Alkozei, A, Schwab, Z, & **Killgore, WD**. Looking for evil intent: Emotional intelligence and the use of socially relevant facial cues during an emotional decision making task. Abstract accepted for presentation at the 43<sup>rd</sup> Annual Meeting of the International Neuropsychological Society, Denver, CO, February 4-7, 2015.
- 294. Shane, BR, Alkozei, A, & **Killgore, WD**. The contribution of general intelligence and emotional intelligence to the ability to appreciate humor. Abstract accepted for presentation at the 43<sup>rd</sup> Annual Meeting of the International Neuropsychological Society, Denver, CO, February 4-7, 2015.
- 295. Markowski, SM, Alkozei, A, & **Killgore, WD**. Sleep onset latency and duration are associated with self-perceived invincibility. Abstract accepted for presentation at the 43<sup>rd</sup> Annual Meeting of the International Neuropsychological Society, Denver, CO, February 4-7, 2015.
- 296. Pisner, D, Alkozei, A, & **Killgore, WD**. Visuospatial reasoning mediates the relationship between emotion recognition and emotional intelligence. Abstract accepted for presentation at the 43<sup>rd</sup> Annual Meeting of the International Neuropsychological Society, Denver, CO, February 4-7, 2015.
- 297. Vanuk, JR, Fridman, A, Demers, LA, Divatia, S, & **Killgore, WD**. Engaging in meditation and internet based training as a means of enhancing emotional intelligence. Abstract accepted for presentation at the 43<sup>rd</sup> Annual Meeting of the International Neuropsychological Society, Denver, CO, February 4-7, 2015.
- 298. Vanuk, JR, Divatia, S, Demers, LA, Markowski, SM, & **Killgore, WD**. Napping in conjunction with brief internet-based training as a means of enhancing emotional intelligence. Abstract accepted for presentation at the 43<sup>rd</sup> Annual Meeting of the International Neuropsychological Society, Denver, CO, February 4-7, 2015.
- 299. Cui, J, Tkachenko, O, Gogel, H, Kipman, M, Preer, LA, Weber, M, Divatia, SC, Demers, LA, Olson, EA, Buchholz, JL, Bark, JS, Rosso, IM, Rauch, SL, & **Killgore, WD**. Fractional Anisotropy of frontoparietal connections predicts individual resistance to sleep deprivation. Abstract accepted for presentation at the 43<sup>rd</sup> Annual Meeting of the International Neuropsychological Society, Denver, CO, February 4-7, 2015.
- 300. **Killgore, WD**, Olson, EA, Weber, M, Rauch, SL, & Nickerson, LD. Emotional intelligence is associated with coordinated resting state activity between emotion regulation and interoceptive experience networks. Abstract accepted for presentation at the 43<sup>rd</sup> Annual Meeting of the International Neuropsychological Society, Denver, CO, February 4-7, 2015.

301. **Killgore, WD**, Demers, LA, Divatia, S, Kipman, M, Tkachenko, O, Weber, M, Preer, LA, Gogel, H, Olson, EA, Vanuk, JR, & Rauch, SL. Enhancing emotional intelligence via brief internet-based training. Abstract accepted for presentation at the 43<sup>rd</sup> Annual Meeting of the International Neuropsychological Society, Denver, CO, February 4-7, 2015.
302. Buchholz, JL, Rosso, IM, Olson, EA, **Killgore, WD**, Fukunaga, R, Webb, CA, & Rauch, SL. Internet-based cognitive behavioral therapy is associated with symptom reduction and cognitive restructuring in adults with major depressive disorder. Abstract presented at the Anxiety and Depression Conference, Miami, FL, April 9-12, 2015.
303. Alkozei, A, Pisner, D, Rauch, SL, & **Killgore, WD**. Emotional intelligence and subliminal presentations of social threat. Abstract presented at the 70<sup>th</sup> Annual Meeting of the Society of Biological Psychiatry, Toronto, Ontario, CA, May 14-16, 2015.
304. Shane, BR, Alkozei, A, Vanuk, JR, Weber, M, & **Killgore, WD**. The effect of bright light therapy for improving sleep among individuals with mild traumatic brain injury. Abstract presented at the 70<sup>th</sup> Annual Meeting of the Society of Biological Psychiatry, Toronto, Ontario, CA, May 14-16, 2015.
305. Vanuk, JR, Shane, BR, Alkozei, A, & **Killgore, WD**. Trait emotional intelligence is associated with greater resting state functional connectivity within the default mode and task positive networks. Abstract presented at the 70<sup>th</sup> Annual Meeting of the Society of Biological Psychiatry, Toronto, Ontario, CA, May 14-16, 2015.
306. Vanuk, JR, Fridman, A, Demers, LA, & **Killgore, WD**. Engaging in meditation and internet-based training as a means of enhancing emotional intelligence. Abstract presented at the 70<sup>th</sup> Annual Meeting of the Society of Biological Psychiatry, Toronto, Ontario, CA, May 14-16, 2015.
307. Pisner, D, Alkozei, A, & **Killgore, WD**. Trait emotional suppression is associated with decreased activation of the insula and thalamus in response to masked angry faces. Abstract presented at the 70<sup>th</sup> Annual Meeting of the Society of Biological Psychiatry, Toronto, Ontario, CA, May 14-16, 2015.
308. Markowski, SM, Alkozei, A, & **Killgore, WD**. The trait of neuroticism predicts neurocognitive performance in healthy individuals. Abstract presented at the 70<sup>th</sup> Annual Meeting of the Society of Biological Psychiatry, Toronto, Ontario, CA, May 14-16, 2015.
309. Buchholz, JL, Rosso, IM, **Killgore, WD**, Fukunaga, R, Olson, EA, Demers, LA, & Rauch, SL. Amygdala volume is associated with helplessness in adults with major depressive disorder (MDD). Abstract presented at the 70<sup>th</sup> Annual Meeting of the Society of Biological Psychiatry, Toronto, Ontario, CA, May 14-16, 2015.
310. Sneider, JT, **Killgore, WD**, Rauch, SL, Jensen, JE, & Silveri, MM. Sex differences in the associations between prefrontal GABA and resistance to sleep deprivation. Abstract presented at the 70<sup>th</sup> Annual Meeting of the Society of Biological Psychiatry, Toronto, Ontario, CA, May 14-16, 2015.

311. **Killgore, WD**, Rosso, IM, Rauch, SL, & Nickerson, LD. Emotional intelligence correlates with coordinated resting state activity between brain networks involved in emotion regulation and interoceptive experience. Abstract presented at the 70<sup>th</sup> Annual Meeting of the Society of Biological Psychiatry, Toronto, Ontario, CA, May 14-16, 2015.
312. **Killgore, WD**, Demers, LA, Divatia, S, Rosso, IM, & Rauch, SL. Boosting Emotional intelligence with a brief internet-based program. Abstract presented at the 70<sup>th</sup> Annual Meeting of the Society of Biological Psychiatry, Toronto, Ontario, CA, May 14-16, 2015.
313. **Killgore, WD**, Vanuk, JR, Alkozei, A, Markowski, SM, Pisner, D, Shane, BR, Fridman, A, & Knight, SA. Greater daytime sleepiness correlates with altered thalamocortical connectivity. Abstract presented at the 70<sup>th</sup> Annual Meeting of the Society of Biological Psychiatry, Toronto, Ontario, CA, May 14-16, 2015.
314. **Killgore, WD**, Tkachenko, O, Gogel, H, Kipman, M, Sonis, LA, Divatia, SC, Demers, LA, Olson, EA, Buchholz, JL, Rosso, IM, & Rauch, SL. Activation of the ventral striatum predicts overeating during subsequent sleep loss. Abstract presented at the 70<sup>th</sup> Annual Meeting of the Society of Biological Psychiatry, Toronto, Ontario, CA, May 14-16, 2015.
315. Alkozei, A, Markowski, SM, Shane, BR, Rauch, SL, & **Killgore, WD**. Emotional resilience is not associated with increased emotional resistance to sleep deprivation. Abstract presented at the SLEEP 2015 Meeting, Seattle, WA, June 6-10, 2015.
316. Alkozei, A, Pisner, D, Markowski, SM, Rauch, SL, & **Killgore, WD**. The effect of emotional resilience on changes in appetite for high-sugary food during sleep loss. Abstract presented at the SLEEP 2015 Meeting, Seattle, WA, June 6-10, 2015.
317. Markowski, SM, Alkozei, A, Rauch, SL, & **Killgore, WD**. Self-perceived invincibility is associated with sleep onset latency and duration. Abstract presented at the SLEEP 2015 Meeting, Seattle, WA, June 6-10, 2015.
318. Markowski, SM, Alkozei, A, Rauch, SL, & **Killgore, WD**. Sex differences in the association between personality and resistance to sleep deprivation. Abstract presented at the SLEEP 2015 Meeting, Seattle, WA, June 6-10, 2015.
319. Shane, BR, Alkozei, A, & **Killgore, WD**. Physical exercise may contribute to vulnerability to sleep deprivation. Abstract presented at the SLEEP 2015 Meeting, Seattle, WA, June 6-10, 2015.
320. Cui, J, Tkachenko, O, Gogel, H, Kipman, M, Sonis, LA, Weber, M, Divatia, SC, Demers, LA, Olson, EA, Buchholz, JL, Rosso, IM, Rauch, SL, & **Killgore, WD**. Resistance to sleep deprivation involves greater functional activation and white matter connectivity within a fronto-parietal network. Abstract presented at the SLEEP 2015 Meeting, Seattle, WA, June 6-10, 2015.
321. Vanuk, JR, Rosso, IM, Rauch, SL, Alkozei, A, Markowski, SM, Pisner, D, Shane, BR, Fridman A, Knight, SA, & **Killgore, WD**. Daytime sleepiness is associated with altered thalamocortical connectivity. Abstract presented at the SLEEP 2015 Meeting, Seattle, WA,

June 6-10, 2015.

- 322. Sneider, JT, Jensen JE, Silveri, MM, & **Killgore, WD**. Prefrontal GABA predicts resistance to sleep deprivation. Abstract presented at the SLEEP 2015 Meeting, Seattle, WA, June 6-10, 2015.
- 323. **Killgore, WD**, Tkachenko, O, Gogel, H, Kipman, M, Sonis, LA, Weber, M, Divatia, SC, Demers, LA, Olson, EA, Buchholz, JL, Rosso, IM, & Rauch, SL. Individual differences in rested activation of the ventral striatum predict overeating during sleep deprivation. Abstract presented at the SLEEP 2015 Meeting, Seattle, WA, June 6-10, 2015.
- 324. **Killgore, WD**, Tkachenko, Rosso, IM, Rauch, SL, & Nickerson, LA. Multimodal neuroimaging to predict resistance to sleep deprivation. Abstract presented at the SLEEP 2015 Meeting, Seattle, WA, June 6-10, 2015.
- 325. Nickerson, LD & **Killgore, WD**. Resting state brain circuits underpinning a neurobiological model of Theory of Mind and Mentalizing. Abstract presented at the Organization for Human Brain Mapping Annual Meeting, 2015, Honolulu, HI, June 14-18, 2015.

## **AWARDED GRANTS AND CONTRACTS**

### ***Completed***

- 2001-2003 fMRI of Unconscious Affect Processing in Adolescence.  
NIH,  
1R03HD41542-01 PI:  
**Killgore**
- 2003-2006 The Effects of Sleep-Loss and Stimulant Countermeasures on Judgment and Decision Making.  
U.S. Army Medical Research and Materiel Command (USAMRMC) Competitive Medical Research Proposal Program (CMRP); Intramural Funding,  
PI: **Killgore**
- 2004-2005 Sleep/wake Schedules in 3ID Aviation Brigade Soldiers.  
Defense Advanced Research Projects Agency (DARPA)  
PI: **Killgore**
- 2005-2006 Functional Neuroimaging Studies of Neural Processing Changes with Sleep and Sleep Deprivation.  
U.S. Army Medical Research and Materiel Command (USAMRMC); Intramural Funding Task Area C (Warfighter Judgment and Decision Making) Program Funding  
PI: **Killgore**
- 2006-2007 Establishing Normative Data Sets for a Series of Tasks to Measure the Cognitive Effects of Operationally Relevant Stressors.

U.S. Army Medical Research and Materiel Command (USAMRMC); Intramural Funding Task Area C (Warfighter Judgment and Decision Making) Program Funding,  
PI: **Killgore**

2006-2007 Military Operational Medicine Research Program (MOM-RP), Development of the Sleep History and Readiness Predictor (SHARP).

U.S. Army Medical Research and Materiel Command (USAMRMC); Intramural Funding PI: **Killgore**

2009-2014 The Neurobiological Basis and Potential Modification of Emotional Intelligence through Affective Behavioral Training (W81XWH-09-1-0730).

U.S. Army Medical Research and Materiel Command (USAMRMC),  
PI: **Killgore**

Major Goal: To identify the neurobiological basis of cognitive and emotional intelligence using functional and structural magnetic resonance imaging.

2011-2014 Effects of Bright Light Therapy on Sleep, Cognition, and Brain Function following Mild Traumatic Brain Injury (W81XWH-11-1-0056).

U.S. Army Medical Research and Materiel Command (USAMRMC),  
PI: **Killgore**

Major Goal: To evaluate the effectiveness of morning exposure to bright light as a treatment for improving in sleep patterns among individuals with post-concussive syndrome. Effects of improved sleep on recovery due to this treatment will be evaluated using neurocognitive testing as well as functional and structural neuroimaging.

2012-2014 Neural Mechanisms of Fear Extinction Across Anxiety Disorders

NIH NIMH

PI: Milad, M. Site Subcontract PI: **Killgore**

Major Goal: To examine the neurocircuitry involved in fear conditioning, extinction, and extinction recall across several major anxiety disorders.

2012-2014 Multimodal Neuroimaging to Predict Cognitive Resilience Against Sleep Loss  
Defense Advance Research Projects Agency (DARPA) Young Faculty Award in Neuroscience (D12AP00241)

PI: **Killgore**

Major Goal: To combine several neuroimaging techniques, including functional and structural magnetic resonance imaging, diffusion tensor imaging, and magnetic resonance spectroscopy to predict individual resilience to 24 hours of sleep deprivation.

2012-2015 Internet Based Cognitive Behavioral Therapy Effects on Depressive Cognitions and Brain function (W81XWH-12-1-0109).

U.S. Army Medical Research and Materiel Command (USAMRMC),

PI: Rauch, SL; Co-PI: **Killgore**

Major Goal: To evaluate the effectiveness of an internet-based cognitive behavioral therapy treatment program on improving depressive symptoms, coping and resilience skills, cognitive processing and functional brain activation patterns within the prefrontal cortex.

***Current***



- 2012-2016 A Model for Predicting Cognitive and Emotional Health from Structural and Functional Neurocircuitry following Traumatic Brain Injury (W81WH-12-0386)  
 Congressionally Directed Medical Research Program (CDMRP), Psychological Health/Traumatic Brain Injury (PH/TBI) Research Program: Applied Neurotrauma Research Award.  
**PI: Killgore**  
 Percent Effort: 25%  
 Major Goal: To evaluate the relation between axonal damage and neurocognitive performance in patients with traumatic brain injury at multiple points over the recovery trajectory, in order to predict recovery.
- 2014-2017 Bright Light Therapy for Treatment of Sleep Problems following Mild TBI (W81XWH-14-1-0571).  
 Psychological Health and Traumatic Brain Injury Research Program (PH/TBI RP) Traumatic Brain Injury Research Award-Clinical Trial.  
**PI: Killgore**  
 Percent Effort: 40%  
 Major Goal: To verify the effectiveness of morning exposure to bright light as a treatment for improving in sleep patterns, neurocognitive performance, brain function, and brain structure among individuals with a recent mild traumatic brain injury.
- 2014-2018 A Non-pharmacologic Method for Enhancing Sleep in PTSD (W81XWH-14-1-0570)  
 Military Operational Medicine Research Program (MOMRP) Joint Program Committee 5 (JPC-5), FY13 Basic and Applied Psychological Health Award (BAPHA)  
**PI: Killgore**  
 Percent Effort: 35%  
 Major Goal: To evaluate the effectiveness of blue light exposure to modify sleep in PTSD and its effects on fear conditioning/extinction, symptom expression, and brain functioning.
- 2015 Effects of Blue Light on Melatonin Levels and EEG Power Density Spectrum  
 Arizona Area Health Education Centers (AHEC) Program  
 Co-PI: Alkozei, A.; Co-PI: **Killgore**  
 Percent Effort: 0%  
 Major Goal: Adjunctive intramural funding to add a melatonin collection to an ongoing study of the effects of blue wavelength light on alertness and brain function.

### ***Pending***

- 2014-2018 Refinement and Validation of a Military Emotional Intelligence Training Program (JW150005)  
 Joint Warfighter Medical Research Program 2015  
**PI: Killgore** Percent Effort: 45%

Major Goal: To develop and validate a new internet-based training program to enhance emotional intelligence capacities in military Service Members.

**LIST OF COLLABORATORS ON GRANTS AND PUBLICATIONS FROM LAST FIVE YEARS**

Acharya, D.	Fridman, Andrew
Alkozei, Anna	Fukunaga, Rena
Athey, A. J.	Ginsberg, Jay P.
Baker, Justin. T.	Gogel, Hannah
Balkin, Thomas J.	Gold, Andrea L.
Bark, John S.	Gonenc, Atilla
Brennan, Brian P.	Gruber, Staci A.
Britton, Jennifer C.	Grugle, Nancy, L.
Bruyere, J.	Guerrero, Melanie L.
Buchholz, Jennifer L.	Hammeroff, Stuart
Capaldi, Vincent F.	Hartman, A. S.
Castro, Carl A.	Hezel, D.
Chosak, A.	Hoge, Charles W.
Cohen-Gilbert, Julia E.	Hudson, James I.
Conrad, Turner A.	Jenike, Michael A.
Covell, Michael J.	Jensen, J. Eric
Crowley, David J.	Jorgensen, Alli L.
Cui, Jiaolong	Juelich, R. J.
Dagher, Joseph	Kamimori, Gary H.
Dahlgren, Mary Kate	Kamiya, T.
Deckersbach, Thilo	Kaufmann, Marc
DelDonno, Sophie R.	Kawada, Y.
Demers, Lauren A.	Kelley, Amanda M.
Dillon, Daniel G.	Killgore, Desiree B.
Divatia, Shreya C.	Kipman, Maia
Dougherty, Darin	Kizielewicz, Jill
Engle, Charles C.	Knight, Sara A.
Estrada, Arthur	Koehlmoos, T. P.
Freed, Michael C.	Krizan, Zlatan

Krupnick, J.  
Lane, Richard  
Lasko, N. B.  
Laundau, A. J.  
Leibenluft, E.  
Makris, Nicos  
Marin, M. F.  
Markowski, Sarah M.  
Meloni, Edward G.  
Milad, Mohammed R  
Mundy, Elizabeth A.  
Nickerson, Lisa D.  
Novak, L.A.  
Olson, Elizabeth A.  
Orr, Scott P.  
Pace-Schott, Edward F.  
Papadimitriou, G.  
Pauls, D. L.  
Pechtel, Pia  
Penetar, David M.  
Pine, Daniel S.  
Pisner, Derek  
Pitman, R. K.  
Pizzagalli, Diego A.  
Pollack, M. H.  
Pope, Harrison G.  
Post, Alex  
Preer (Sonis), Lilly  
Price, Lauren M.  
Racine, Megan T.  
Ragan, J.  
Raison, Charles L.  
Rauch, Scott L.

Rauch, Shiela  
Reichardt, Rebecca M.  
Renshaw, Perry F.  
Rizzo, Albert (Skip)  
Rohan, Michael  
Ross, Amy J.  
Rosso, Isabelle M.  
Rupp, Tracy L.  
Ryan, E. M.  
Sagar, Kelly A.  
Schoenberg, Michael R.  
Schwab, Zachary J.  
Shane, Bradley R.  
Silveri, Marisa M.  
Simon, Naomi M.  
Smith, Kacie L.  
Smith, Ryan S.  
Sneider, Jennifer T.  
Song, Christina H.  
Song, H.  
Steward, S. E.  
Thomas, Jennifer J.  
Tkachenko, Olga  
Trksak, George H.  
Vanuk, John R.  
Webb, Christian A.  
Weber, Mareen  
Weihs, Karen  
Weiner, Melissa R.  
Whte, C. N.  
Wilhelm, S.  
Yurgelun-Todd, Deborah, A.  
Zai, D.

## **GRADUATE, POSTDOCTORAL, THESIS ADVISORS OR SPONSORS**

Steven W. Gangestad, Ph.D.—Undergraduate Senior Honors Thesis Advisor

Lawrence Overby, III, Ph.D.—Masters Thesis Advisor

Bill J. Locke, Ph.D.—Doctoral Thesis Advisor

Keith A. Hawkins, Ph.D.—Doctoral Internship Advisor

Russell L. Adams, Ph.D.—Postdoctoral Fellowship Advisor

James G. Scott, Ph.D.—Postdoctoral Fellowship Advisor

Guila Glosser, Ph.D.—Postdoctoral Fellowship Advisor

Deborah A. Yurgelun-Todd, Ph.D.—Postdoctoral Fellowship Advisor

*This is a true and accurate statement of my activities and accomplishments. I understand that misrepresentation in securing promotion and tenure may lead to dismissal or suspension under ABOR Policy 6-201 J.1.b.*

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William D. “Scott” Killgore, Ph.D.